DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
720 E. Park Boulevard, Suite 245
Boise, Idaho 83712-7757

February 8, 2016

Regulatory Division

SUBJECT: NWW-2006-2300025-B02, ITD/US 20/26 Corridor Study
ITD Key No. 07826

Ms. Amy Schroeder
Idaho Transportation Department
Post Office Box 8028
Boise, Idaho 83707-2028

Dear Ms. Amy Schroeder:

Our preliminary jurisdictional determination (PJD) indicates the proposed US 20/26 Corridor Study project site may include Waters of the United States, including wetlands. The proposed project site is located on US 20/26 between the I 84 Junction in Caldwell, and the Eagle Road intersection in Eagle, within Sections 19, 23-26 & 30 of Township 4 North, Range 3 West, Sections 19-30 of Township 4 North, Range 2 West, Sections 19 – 30 of Township 4 North, Range 1 West, and within Sections 19 – 21, & 28 – 30 of Township 4 North, Range 1 East, near latitude 43° 39' 47.55" N and longitude - 116° 30' 46.51" W, in Canyon & Ada Counties, Idaho. Your request has been assigned file number NWW-2006-2300025-B02, which should be referred to in future correspondence with our office regarding this site.

Enclosed are two copies of the Preliminary Jurisdictional Determination Form and Figures 5.1 – 5.14, updated November 2015, entitled "Potentially Jurisdictional Wetlands/Waters of the U.S." showing the approximate boundaries that may be Water(s) of the U.S., including wetlands, for the subject corridor study project site. Please review the document and any attachments thereto. If you consent to jurisdiction as set forth, please sign both copies, return one copy to the Corps at the address in the above letterhead and keep the other copy for your records. This PJD shall remain in effect unless an approved jurisdictional determination is requested or new information supporting a revision is provided to this office.

Although this determination is advisory in nature and may not be appealed under the Corps of Engineers Administrative Appeal Procedures, as defined in 33 CFR 331, the enclosed *Notification of Administrative Appeal Options and Process Fact Sheet and Request for Appeal Form* (RFA) explains your options, if you do not agree with this determination.

SECTION 404 WATER

Section 404 of the Clean Water Act requires that a DA permit be obtained for the discharge of dredged and/or fill material into Waters of the U.S., including jurisdictional wetlands (33 U.S.C. 1344). Waters of the U.S. include most perennial and intermittent rivers and streams, natural and man-made lakes and ponds, as well as irrigation and drainage canals and ditches that are tributaries to other Waters, and wetlands. A Department of the Army (DA) authorization may be required if you propose to perform work or place dredged and/or fill material into waters or wetlands on the project site.

Further, the Corps defines wetlands as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Discharges of dredged or fill material into these areas may include those associated with mechanized land-clearing involving vegetation removal with mechanized equipment such as front-end loaders, backhoes, or bulldozers with sheer blades, rakes, or discs in wetlands and excavation activities which result in the discharge of dredged material and destroy or degrade Waters of the United States.

Please be aware, this PJD treats all wetlands and Waters on the project site as Waters of the U.S. subject to Corps jurisdiction, and may be submitted with a permit application for computation of impacts and compensatory mitigation requirements.

This determination applies only to Department of the Army permitting jurisdiction and does not authorize any injury to property or excuse you from compliance with other Federal, State, or local statutes, ordinances, regulations, or requirements which may affect these areas, or work you would propose to conduct in these areas. Please obtain all required permits before starting work in the Waters or wetland areas identified on this project site.

CUSTOMER SERVICE

We actively use feedback to improve our delivery and provide you with the best possible service. Please take our online customer service survey to tell us how we are doing. Follow this link to take the survey: http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey. If you have questions or if you would like a paper copy of the survey, call our office at 208-433-4464. For more information about the Walla Walla District Regulatory program, visit us online at http://www.nww.usace.army.mil/BusinessWithUs/RegulatoryDivision.aspx.

If you have any questions or need additional information about this permit, you can contact Ms. Nicholle Braspennickx at 208-433-4461, by mail at the address in the letterhead, or email at Nicholle.M.Braspenn@usace.army.mil. A copy of this letter is being sent to: Mr. Greg Vitley, Idaho Transportation Department, (ITD), District 3; and Ms. Sue Sullivan, ITD Headquarters.

Sincerely,

Kelly J. Urbanek
Chief, Regulatory Division

Enclosures:
Wetland/Waters Delineation Maps Figures 5.1 – 5.14 Prepared by Parametrix
Preliminary Jurisdictional Determination Form
Notification of Administrative Appeal Options and Request for Appeal Form

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

I. BACKGROUND INFORMATION

A. Report completion date for Preliminary Jurisdictional Determination (PJD): 1/25/2016

B. Name/address of person requesting preliminary JD:
Ms. Amy Schroeder, Idaho Transportation Department, Post Office Box 8028, Boise, Idaho 83707-2028. Phone: 208-334-8302. Amy.Schroeder@itd.idaho.gov

C. District Office: Walla Walla District
File Name: ITD/US 20/26, Corridor Study
File Number: NWW-2006-2300025-B02

D. Project Location(s) and Background Information:
State: Idaho Counties: Canyon & Ada Cities: Caldwell, Eagle
Center Coordinates of Site (lat/long in degree decimal format): Lat.: 43° 39' 47.55" North
Long.: -116° 30' 24.92" West
Universal Transverse Mercator: 11
Name of nearest waterbody(s): Phyllis Canal, Caldwell Canal, Fifteen Mile Creek, Mason Creek, Noble Drain, unnamed canals, drains, ditches, and tributaries
Identify (estimate) amount of waters in the review area:
Non-wetland waters: 15.6 linear miles varies Width (ft) and/or acres
Cowardin Class: R4Cx – Riverine, intermittent, seasonal, excavated
Stream Flow: intermittent
Wetlands: approx. 2.25 acres
Cowardin Class: emergent, scrub-shrub
Name of any water bodies on the site identified as Section 10 waters:
Tidal: N/A
Non-Tidal: N/A

E. **Review performed for site evaluation** (Check all that Apply):
☒ Office (Desk) Determination Date: January 25, 2016 and February 4, 2016
☒ Field Determination Date(s): March 27, 2008, July 13, 2010

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site. The permit applicant or other affected person/party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for the site, as described above. Nevertheless, the permit applicant or other affected person/party who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "Pre-Construction Notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following:

   (a) The permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters;

   (b) That the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved

JD could possibly result in less compensatory mitigation being required or different special conditions;

(c) That the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization;

(d) That the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary;

(e) That undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable;

(f) Accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and

(g) Whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable.

3. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein) or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

II. SUPPORTING DATA. Data reviewed for Preliminary JD

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Check all boxes below that apply. The checked information should be included in the administrative file. Provide detailed reference sources for each checked box.

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: "US Highway 20/26 Corridor Preservation Study – Wetlands and Waters of the U.S. Report," prepared by Parametrix, dated November 2015, Figures 1, and 5.1 – 5.14

☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant
- ☒ Office concurs with data sheets/delineation report
- ☐ Office does not concur with data sheets/delineation report

☐ Data sheets prepared by the Corps:

☐ Corps navigable waters' study:

☐ U.S. Geological Survey Hydrologic Atlas:
- ☐ USGS NHD data
- ☐ USGS 8 and 12 digit HUC maps

☒ U.S. Geological Survey map(s): Cite scale & Quad Name: 1:24K, Caldwell, Middleton, Star, & Eagle
☐ USDA Natural Resources Conservation Service Soil Survey, Citation:
☐ National wetlands inventory map(s): Cite name:
☐ State/Local wetland inventory map(s):
☐ FEMA/FIRM maps:
☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
☐ Photographs: ☐ Aerial (Name & Date): OR ☐ Other (Name & Date):
☐ Previous determination(s): File no. and Date of Response Letter:
☒ Other information (please specify):

Fifteen Mile Creek and Mason Creek are perennial, relatively permanent waters (RPWs) which flow to the Boise River. The Boise River is another perennial RPW which flows to the Snake River, an interstate, Section 10, traditional navigable water of the U.S. Corps of Engineers regulations at 33 CFR Part 328.3(a)(5) assert Clean Water Act (CWA) jurisdiction over all tributaries to other waters of the U.S.

Phyllis Canal, Caldwell Canal, and other ditches, drains and unnamed irrigation canals delineated on-site are intermittent RPWs which flow to the Boise River. In *Headwaters, Inc. vs. Talent Irrigation District, 243 F.3d 526 (9th Cir. 2001)* the Ninth Circuit Court of Appeals held that irrigation canals that receive water from natural streams and lakes, and divert water to streams and creeks, are connected as "tributaries" to those other waters. "As tributaries, the canals are 'waters of the United States' and are subject to the CWA and its permit requirement." *Headwaters. 243 F.3d at 533.* Moreover, the court held that "Even tributaries that flow intermittently are 'waters of the United States.'" *Id. at 534.* Corps of Engineers regulations at 33 CFR Part 328.3(a)(5) assert CWA jurisdiction over tributaries to other waters of the U.S.

The delineated wetlands on-site are bordering and/or contiguous to delineated tributaries on-site, both natural and man-made. Corps of Engineers regulations at 33 CFR Part 328.3(a)(7) assert CWA jurisdiction over wetlands adjacent to waters of the United States.

Ponds 1, 3 and 4 may be jurisdictional waters of the U.S. per 33 CFR Part 328.3(a)(4) or other definition of waters of the United States.

This constitutes a preliminary jurisdictional determination (JD) and is useful for the planning of your project. An approved JD is not necessary in order for the Corps to process a 404 permit application.

Admin File No. NWW-2006-2300025-B02

Important Note: ***The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.***

See Next Page for Required Signatures

Admin File No. NWW-2006-2300025-B02, ITD/US 20/26 Corridor Study, PJD

Required PJD Signatures

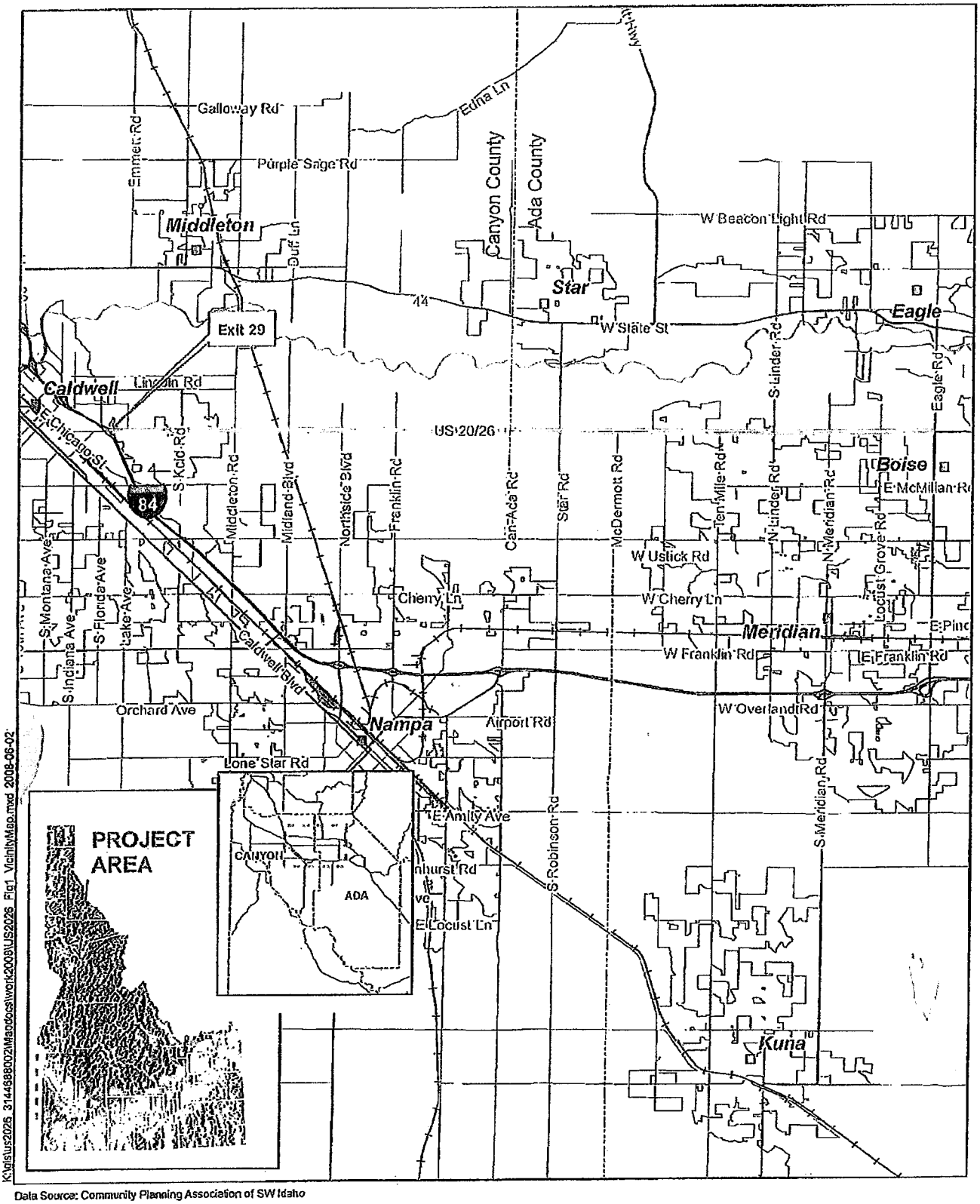
Signature of Regulatory Project Manager REQUIRED

2/5/16
Date

Signature of person requesting Preliminary JD REQUIRED (unless obtaining signature is impractical)

9-8-2016
Date

43° 39' 47.55" N
- 116° 36' 46.51" W 2492' elev



K:\gis\us2026_3144688002\Maps\cs\work2008\US2026_Fig1_VicinityMap.mxd 2008-06-02

Data Source: Community Planning Association of SW Idaho

N

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Scale in Feet

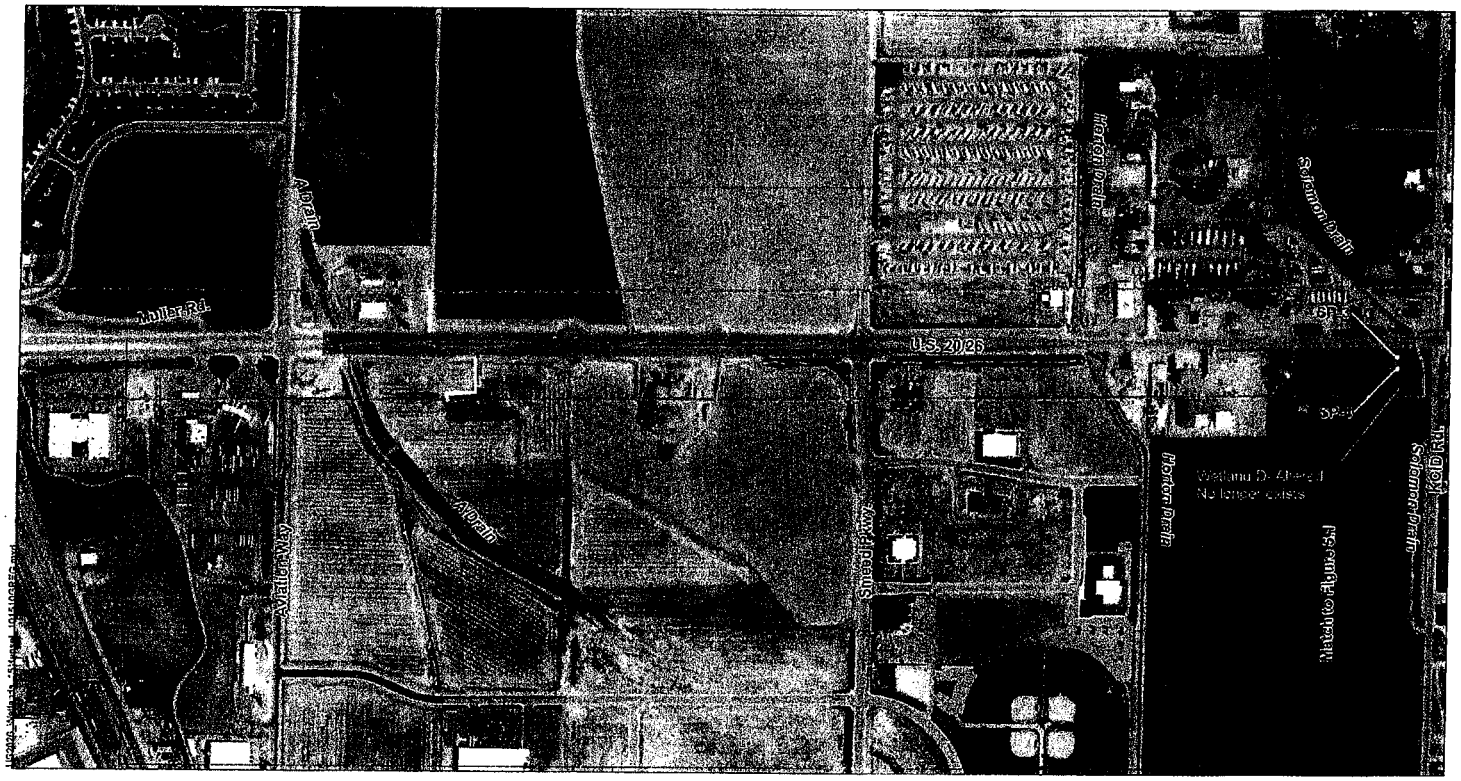
US 20/26 | Highway | Road | Railroad | County | Reservoir | Boise River | City Limits | Major City

Figure 1
Vicinity Map

KN 07826

US 20/26 Corridor
Preservation Study
Ada and Canyon Counties, ID

NWWO. 2006-230025-BP2



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Scale in Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index

Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.1

NWW No. 2006-2300025-B#2

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Scale in Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGP, swisstopo, and the GIS User

Legend

Wetlands

TYPE

- Concrete Lined Channel
- U-Ines / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index

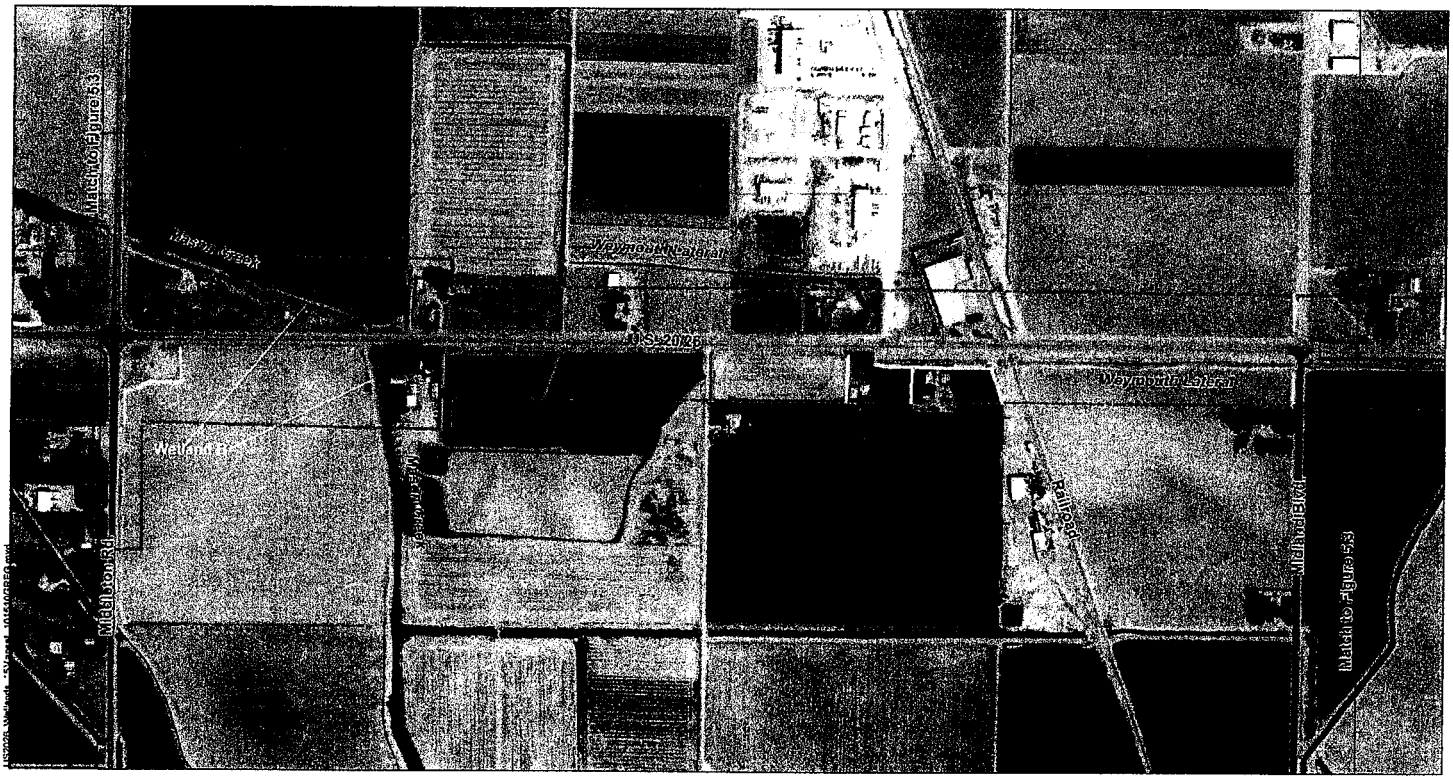
Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.2

NWW No. 2006-2300025-BP2



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Scale in Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

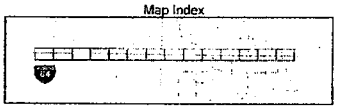
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index



Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.3

NWW No. 2006-2300025-BQ2

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Scale in Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

Legend

Wetlands

TYPE

Concrete Lined Channel

Unlined / Dirt Channel

Pond

Natural Stream

Potential Wetland Area

Evaluation Area

Map Index

Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.4

NWW NO. 2006-2300025-BØ2

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Scale in Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

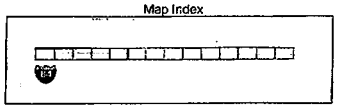
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Perennial Wetland Area
- Evaluation Area

Map Index



Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.5

NWW No. 2006-23 00025-BP2

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Scale in Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

Legend

Wetlands

TYPE

Concrete Lined Channel

Unlined/Cut Channel

Pond

Natural Stream

Potential Wetland Area

Evalust on Area

Map Index

Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.6

NWW No. 2006-23000 25-B42

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Scale in Feet

Source Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

Legend

Wetlands

TYPE

- Concrete Lined Channel
- Lined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index

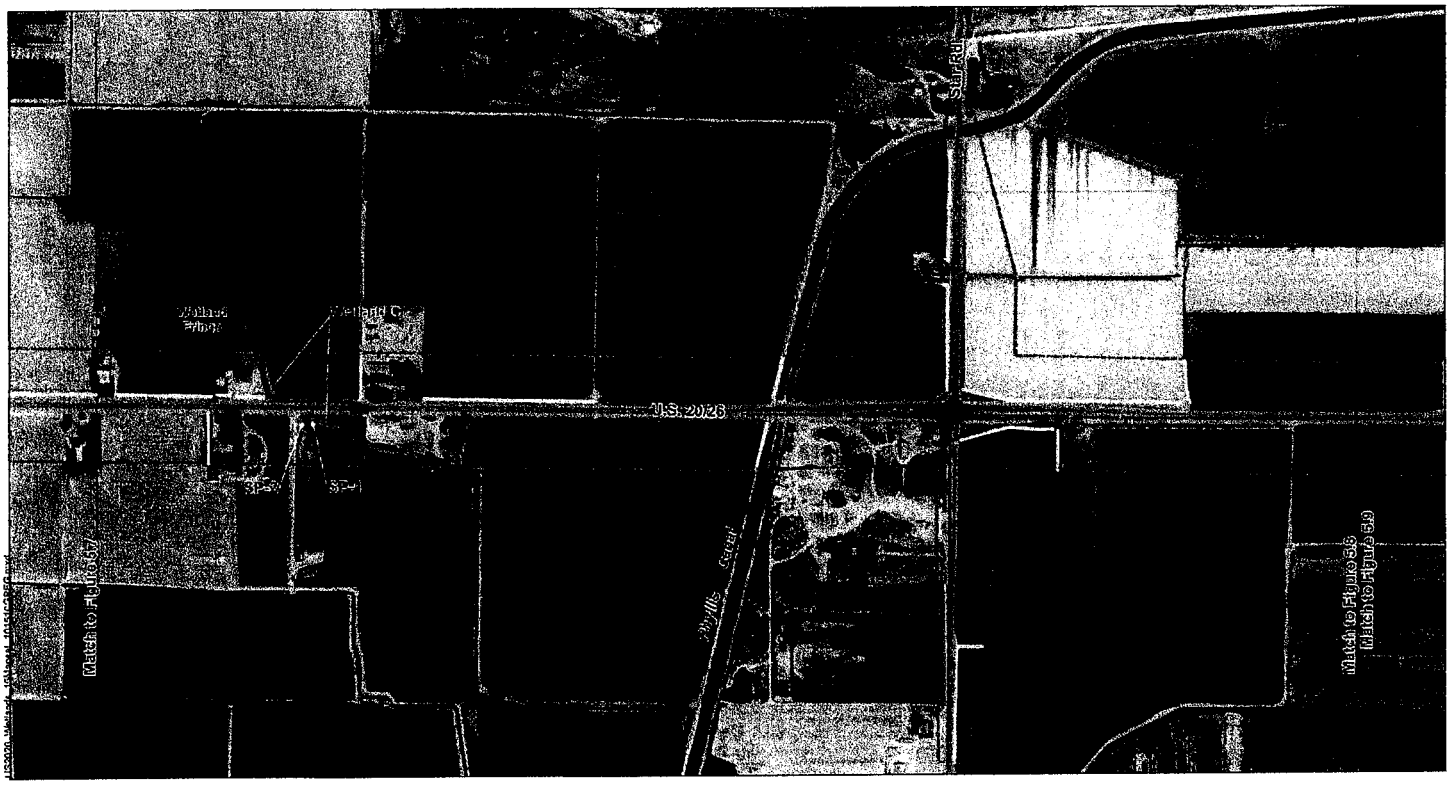
Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.7

NWWD. 2006-23000 25-BJP2



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Scale in Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

Legend

Wetlands

TYPE

- Concrete Lined Channel
- Drainage Ditch
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index

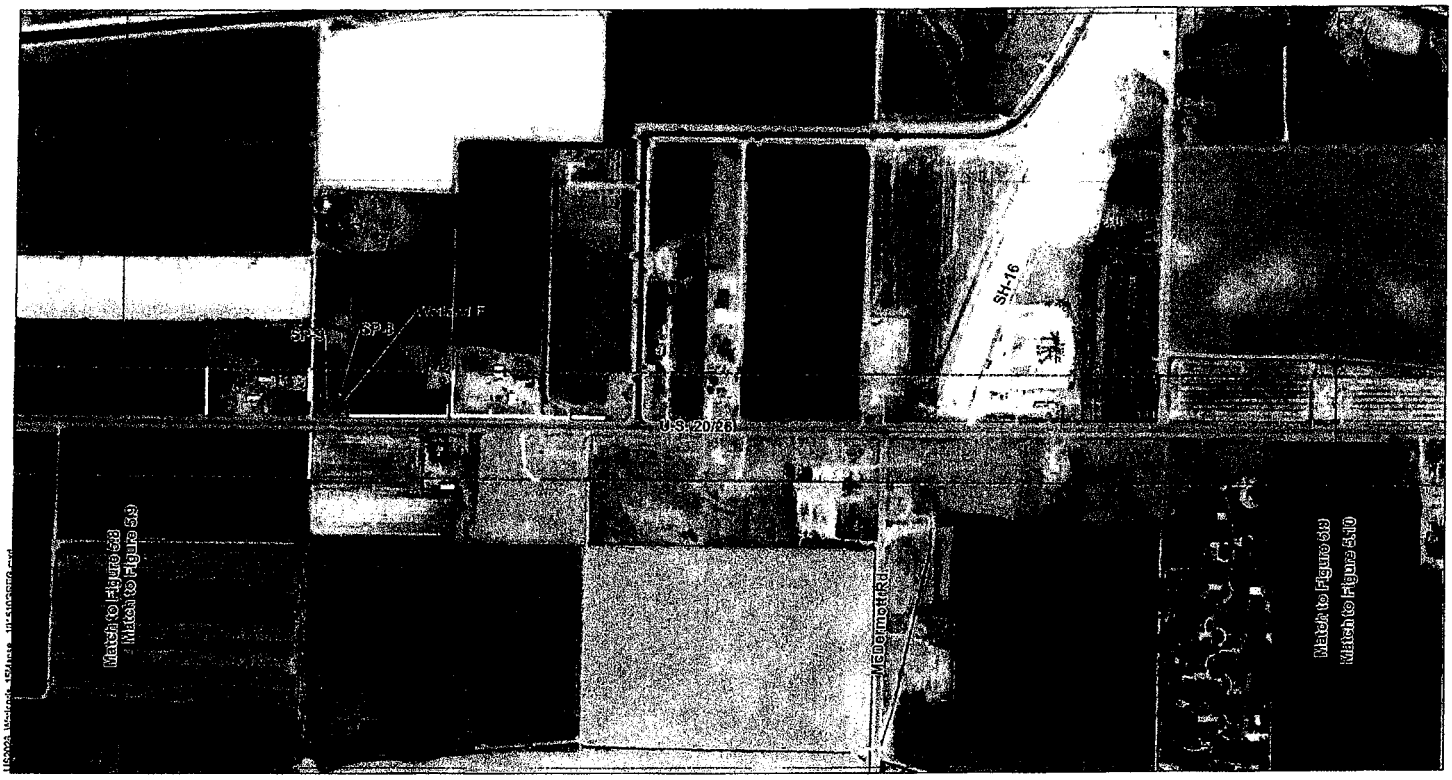
Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.8

NWW No. 2006-23000 25-BPZ



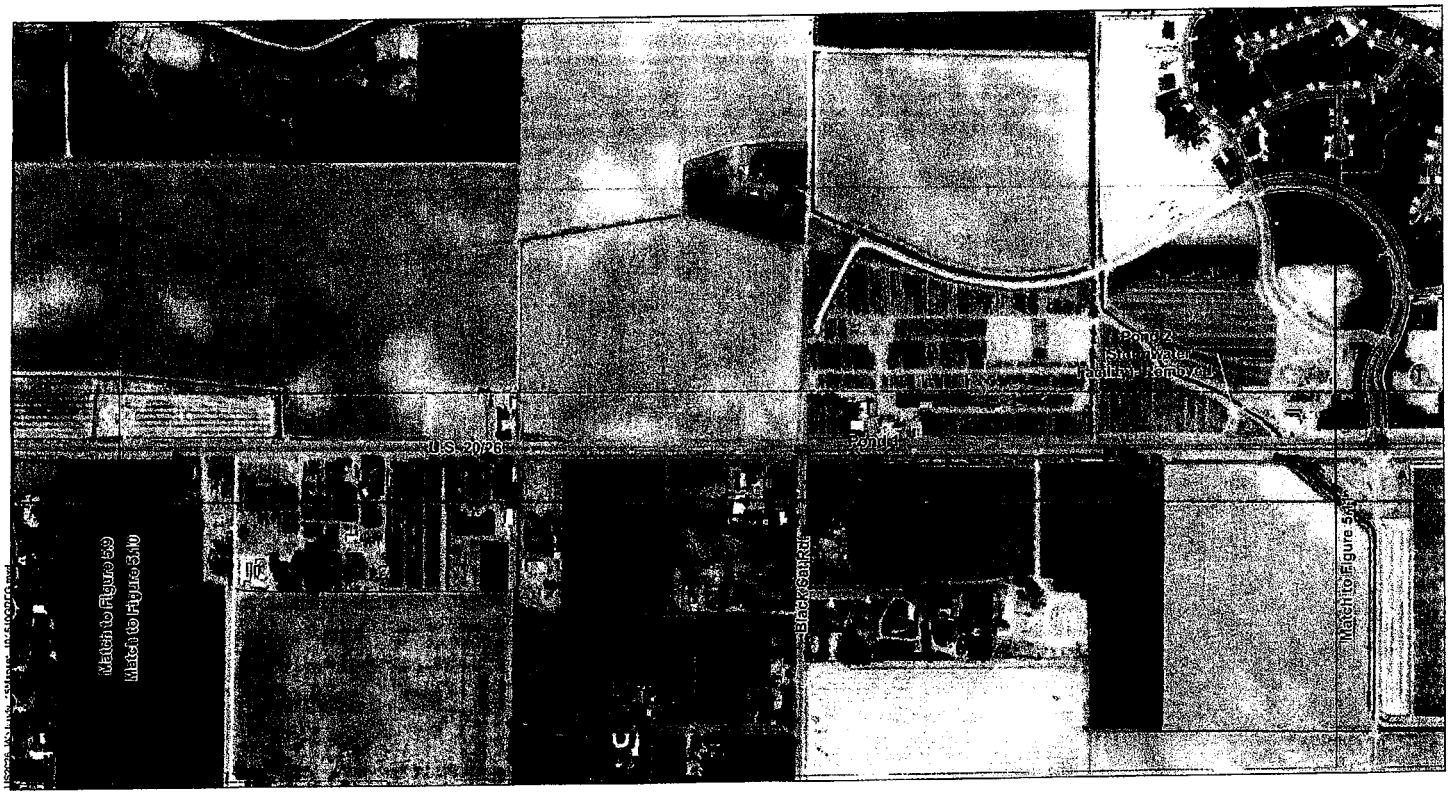
Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.9

NWW No. 2006-2300025-B#2



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Scale in Feet

Image Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Nature Stream
- Potential Wetland Area
- Evaluation Area

Map Index

Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.10

NWW No. 2006-2300025-B#2

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Scale in Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channe
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index

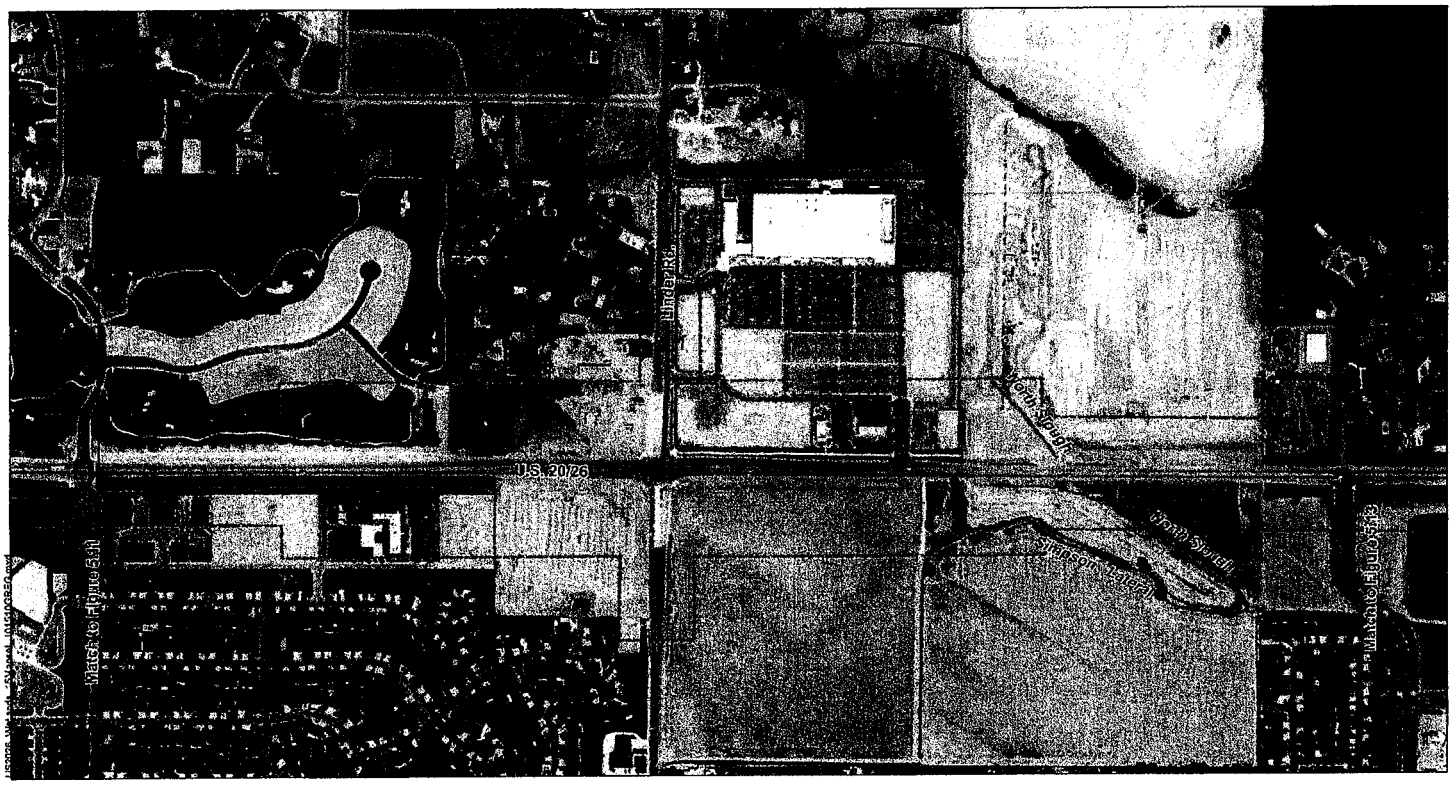
Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.11

NWW No. 2006-2300025-Bq2



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Scale in Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

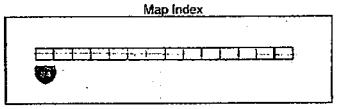
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channe
- Pond
- Riverine
- Potential Wetland Area
- Evaluation Area

Map Index



Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.12

NWW No. 2006-2300025-BP2

N

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Scale in Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Preliminary Area

Map Index

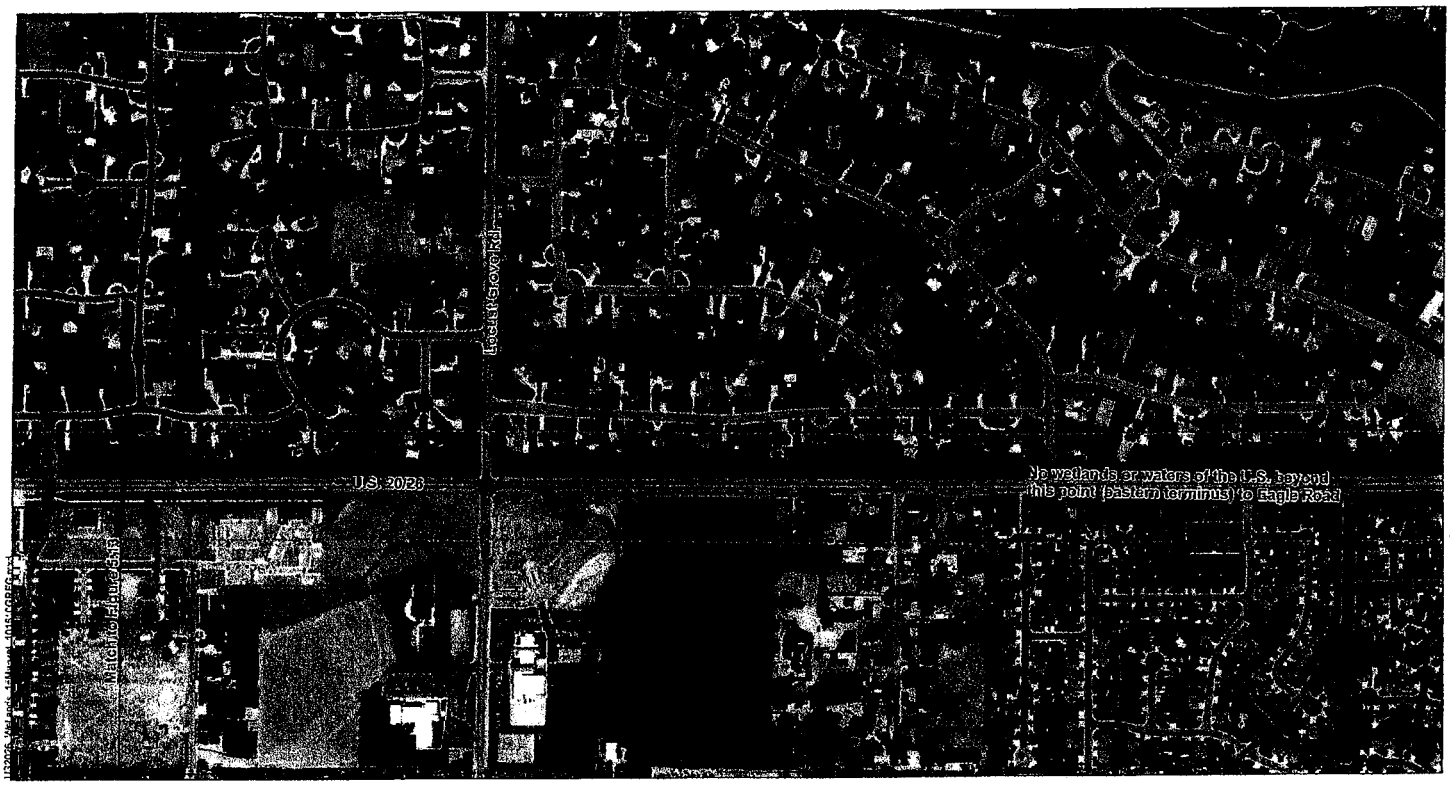
Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.13

NWW No. 2006-2300025-BP2



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Scale in Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

Legend

Wetlands

TYPE

- Cowardin Label Channel
- Uniines / Dirt Channel
- Pond
- Riverine
- Potential Wetland Area
- Evaluation Area

Map Index

Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.14

NWWD. 2006-2300025-B#2

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Idaho Transportation Department	File Number: NWW No. 2006-2300025-B02 ITD Key No. 07826	Date: 2/8/16

Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
X	**PRELIMINARY JURISDICTIONAL DETERMINATION**	**E**

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found in Corps regulations at 33 CFR Part 331, or at http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/FederalRegulation.aspx

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

US Army Corps of Engineers, Walla Walla District
Attn: Ms. Kelly J. Urbanek, Chief, Regulatory Division
720 E. Park Boulevard, Suite 245
Boise, Idaho 83712-7757 Telephone: 208-433-4464
Kelly.J.Urbanek@usace.army.mil

If you only have questions regarding the appeal process you may also contact:

US Army Corps of Engineers, Northwestern Division
Attn: Mary Hoffman, Regulatory Appeals Review Officer
P.O. Box 2870
Portland, OR 97208-2870 Telephone (503) 808-3888
Mary.J.Hoffman@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
_____ Signature of appellant or agent.		

U.S. Highway 20/26 Corridor Preservation Study- Wetlands and Waters of the U.S. Report.

ITD Key No: 07826

Project No. STP-3230(106)

Prepared for

Idaho Transportation Department
8150 Chinden Blvd
Boise, Idaho 83714

WETLAND DELINEATION/DETERMINATION REPORT COVER FORM

☒ Applicant ☐ Owner Name, Firm and Address: Idaho Transportation Department C/O Marc Danley, Project Manager District 3 8150 Chinden Blvd Boise, Idaho 83714	Business phone #: 208.334.8300 Home phone # (optional): FAX #: 208-334-8917 E-mail: Marc.Danley@itd.idaho.gov
☐ Authorized Legal Agent, Name and Address:	Business phone #: FAX #: E-mail:

Project and Site Information

Project Name: US Highway 20/26 Corridor Preservation Study	Latitude: 43.663 Longitude: -116.498
Proposed Use: Corridor Preservation/Road Widening	Tax Map #:
Project Street Address (or other descriptive location): US Highway 20/26 between Caldwell (Aviation Way) and Eagle (Eagle Road) (approximately 15 miles)	Township: 4N Range: 1E, 1W-2W, 3W Sec: 19,20,29,30, 19-30, 23-25 Tax Lot (s): numerous
City: Eagle to Caldwell County: Ada & Canyon	Waterway: N/A River Mile: N/A NWI Quad(s): Star, Middleton, Eagle

Wetland Determination Information

Wetland Consultant Name, Firm and Address: Colin MacLaren Parametrix 700 NE Multnomah, Suite 1000 Portland, OR 97232	Phone #: 503.233.2400 FAX #: 503.233.4825 E-mail address: cmaclaren@parametrix.com
Primary Contact for report review and site access is ☐ Consultant ☒ Applicant/Owner ☐ Authorized Agent	
Wetland/Waters Present? ☒ Yes ☐ No	Total Wetland Acreage: 2.50 acres in the study area

Determination Purpose:

☐ R-F permit application submitted with delineation		☐	Sale, purchase, lease etc.
☐ Mitigation bank site		☐	Partition, re-plat, lot line adjustment
☐ Industrial Land Certification Program site		☐	Habitat restoration project
☐ R-F application will be submitted within 90 days		☒	Other: Transp. Corridor preservation
Other Information:	Y	N	
Has previous delineation/application been made on parcel?	☐	☒	If known, date of previous study:
Does LWI, if any, show wetland on parcel?	☐	☒	LWI wetland code:

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APPENDICES

WETLAND DETERMINATION SUMMARY

Study Area Name: US Highway 20/26 Corridor Preservation Study.

Location: Canyon and Ada Counties:, Township 4 North, Range 1 East, Sections 19-20; Township 4 North Range 1 West, Sections 19-30; Township 4 North, Range 2 West, Sections 19-30; and Township 4 North, Range 3 West, Sections 23-26.

Study Area: The study area is a 600-foot wide corridor that straddles US Highway 20/26 which widens to 700 feet at potential interchange locations at Linder and Franklin Roads (it also widens to 700 feet at Middleton and McDermott Roads because at the time of the wetland investigation there was potential for interchanges at these locations).

Owner: Multiple owners.

Methods: Potentially jurisdictional wetlands and waters of the United States (US) were identified using the **"**Arid West Interim Regional Supplement**"** of the US Army Corps of Engineers (Corps) Wetlands Delineation Manual (Environmental Laboratory 2006).

Hydrology: Hydrology at the wetland sites is mainly from surface flow originating from two streams and leakage from numerous irrigation canals and laterals within the study area. Approximately 0.22 inches of rain fell during the three weeks prior to the start of wetland determination work in May 2007 and approximately 0.01inches of rain fell in September of 2010 prior to wetland determination work in October 2010 (National Weather Service – Climate Data).

Soils: One hydric soil unit, Moulton fine sandy loam, is mapped for the study area. Several non-hydric soil units may have hydric soils inclusions. Soils within potentially jurisdictional wetlands exhibited chroma values ranging from two (2) to three (3).

Vegetation: Dominant vegetation within the wetlands includes a variety of herbaceous species, including reed canarygrass (*Phalaris arundinacea,* FACW), cattail (*Typha latifolia,* OBL), and tall fescue (*Festuca arundinacea).* Areas adjacent to canals and stream channels support stands of willow (*Salix* sp.), cottonwood (*Populus balsamifera*, FAC), and black locust (*Robinia pseudo-acacia*, FACU). Dominant vegetation in upland areas consists of a variety of weedy, non-hydrophytes including cheatgrass (*Bromus tectorum*, UPL), orchardgrass (*Dactylis glomerata*, FACU), and Italian ryegrass (*Lolium multiflorum*, FACU). A clear distinction between hydrophytic and non-hydrophytic species is common and apparent throughout the study area.

Project Staff: Colin MacLaren, Tina Farrelly, and Gary Maynard, Parametrix. Greg Vitley, ITD.

Field Dates: May 10 and 11, 2007, March 27, 2008, July 13, 2010, October 1, 2010 and October 28, 2015.

Determination: Numerous streams and irrigation canals, laterals, and seven features that fall within the study area were determined to be potentially jurisdictional wetlands/waters of the US. In addition, three manmade ponds within the study area were determined to be potentially jurisdictional; investigations as to the connectivity of three of the pond features were in-determinant. Two of the wetland features are associated with creeks, which consist of nearly level, vegetated riparian benches along Fifteenmile and Mason creeks. These two riparian wetlands include limited tree and shrub overstory with a reed canarygrass-dominant understory. The other two wetlands are palustrine emergent wetlands, which have been affected by livestock grazing or agriculture and are supported by leakage from irrigation features and ponding.

Functional Capacity: Three functional capacity evaluations were made for: 1) manmade canals and ditches; 2) naturally-occurring streams; and 3) wetlands. The overall condition of potentially jurisdictional wetlands, manmade waterways, and stream channels in the study area is poor, based on an evaluation using the Montana Department of Environmental Quality Rapid Assessment Method. The wetland area and streams are disturbed and support a nuisance plant population (reed canarygrass) but

have potential for recovery; the irrigation canals are maintained and are located in an urbanized setting; thus, current biologic functions are diminished and the potential for significant enhancement is limited. See APPENDIX C.

1. INTRODUCTION

The Idaho Transportation Department (ITD) is conducting a corridor preservation study for a 15-mile segment of US Highway 20/26 (US 20/26) in Ada and Canyon Counties. The purpose of the study is to retain and preserve road right-of-way for anticipated improvements to US 20/26. This report assesses the wetland presence or absence of potentially jurisdictional wetlands/waters of the United States within the potential project corridor (Figure 1).

The section of US 20/26 that is being studied connects the cities of Caldwell, Meridian, Eagle, and Boise and the Urban Areas of Impact for the cities of Nampa and Star (areas experiencing or will be experiencing development pressure as defined in the respective comprehensive plans). The study area is centered along US 20/26, beginning at Aviation Way near the US 20/26 and Interstate 84 interchange in Caldwell, and extending east about 15 miles to Eagle Road (State Highway 55) in Ada County. Potential future improvements may include additional travel lanes and access management options including new interchanges.

On May 10 and 11, 2007, Parametrix staff performed field studies to document the presence or absence of potential jurisdictional wetlands and waterways within the project area, and to assess the functions of existing wetland and waterway features. Supplemental field investigations were conducted March 27, 2008 and July 13, 2010 with Greg Vitley, ITD District 3 Environmental Planner, and Nicholle Braspennickx, US Army Corps of Engineers (Corps) Regulatory Project Manager, to verify and update preliminary field studies and wetland determinations. An additional wetland investigation was completed by Parametrix on October 1, 2010 as a result of the July 13, 2010 field reconnaissance, which indicated a need to reassess the changes to irrigation drainage features and wetlands since 2007. Greg Vitley did a field review to update this report on October 28, 2015. It was determined that Wetland D and E, and Pond 2 no longer exist among several changes in the irrigation facilities.

2. SITE DESCRIPTION AND HISTORY

The site is located in T4N, Ranges 1E to 3W, Sections 19 to 30 (see Figures 1 and 2; all figures are found in Appendix A). The linear study area follows the alignment of US 20/26 for approximately 15 miles, and extends a minimum of 300 feet from the centerline of the highway (Figure 2). Primary land use at the site is agriculture, with surrounding properties undergoing urbanization as evident from recent subdivision development, especially in eastern portions of the study area.

Manmade irrigation canals, two streams, and two potentially jurisdictional wetlands were identified within the study area. Not all canals had surface waters present during field work, but all that were identified as potentially jurisdictional showed evidence of recent usage.

3. METHODS

Prior to field investigation, Parametrix staff reviewed available environmental data for the site. This included an examination of topographic maps, aerial photographs, the Soil Survey of Ada County Area, Idaho (Natural Resources Conservation Service [NRCS] 1980, Figure 3), Soil Survey for Canyon County Area, Idaho (NRCS 1985), and National Wetland Inventory (NWI) maps (US Fish and Wildlife Service [USFWS] 1981, Figure 4). NWI maps for the site are the Star, Middleton, and Eagle quadrangles.

The delineations were conducted pursuant to the parameters detailed in the Corps' Interim Regional Supplement to the Corps Wetland Delineation Manual: Arid West Region (Environmental Laboratory, 2006). The 1987 manual and Arid West supplement require evidence of three parameters in order to determine that a wetland occurs on a site: wetland hydrology, hydric soils, and hydrophytic vegetation.

The information collected during the site visit was recorded on supplemental Arid West wetland determination data forms and is included in Appendix B.

Due to the well-defined boundaries of the numerous canals, ditches and laterals located within the study area, those areas were mapped using aerial interpretation, and then field verified. Wetland areas were field verified using standard methods and disturbed site methods described in the 1987 Manual.

3.1 VEGETATION

For an area to be classified as a wetland, a majority of the dominant plant species identified must be hydrophytes, that is, plants adapted to life in saturated soil conditions. In the National List of Plant Species that Occur in Wetlands: 1988 National Summary and 1993 Supplement: Northwest (Region 9) (Reed 1988, 1993), plant species are categorized according to their likelihood of occurring in wetlands. The categories include obligate (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), or upland (UPL). If more than 50 percent of the dominant plant species are OBL, FACW, or FAC, the vegetation is considered to be hydrophytic.

3.2 SOILS

The 1987 manual defines wetland soil as soil that is "…saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation." Acceptable field evidence of non-sandy mineral wetland soils includes gleying, soils with a chroma of 1, and soils with a chroma of 2 with mottling. Chroma is the intensity of a color and a low chroma indicates that the soil has been exposed to reducing conditions. Mottling of the soil indicates a fluctuating water table that allows the soil to become oxidized for parts of the growing season. In addition, the soil surveys of Ada and Canyon County were consulted to determine soil types potentially present within the project area. To establish the wetland boundaries, profiles of soil pits (at least 12 inches deep, except where the ground was too hard to dig) were inspected upland of the wetland and within the wetland itself. The soil texture, matrix color, and presence of mottles or gleying were recorded in the wetland determination data forms (Appendix B).

3.3 HYDROLOGY

Wetland hydrology, as defined in the 1987 manual, must be…

> "inundated or saturated by water to the surface for at least 5 percent of the growing season. Areas that are inundated or saturated to the surface for 5 to 12.5 percent of the growing season may meet the requirement for wetland hydrology if other positive indicators are present. Areas that are inundated or saturated to the surface for more than 12.5 percent of the growing season always have wetland hydrology."

The hydrology of the site was documented by recording the presence or absence of surface water, depth to the water table, saturation, and evidence of inundation (drainage patterns and oxidized root channels) at each soil pit sample plot. At the time of the site visits, wetland hydrology was present.

4. RESULTS

The following section describes current on-site conditions, based on a review of existing data and field visits.

4.1 DATA REVIEW

4.1.1 Soil Survey

Thirteen soil series are mapped by the NRCS as occurring on-site (Figure 3). Of the 13 soil series, Moulton fine sandy loam is the only hydric soil identified by NRCS soil surveys within the project area. Moulton fine sandy loam is mapped in the vicinity of South Eagle Road.

Moulton soils are deep and poorly-drained, formed in acid igneous alluvium on low alluvial terraces adjacent to the Boise River flood plain. Slope ranges from 0 to 2 percent. The elevation is 2,500 to 2,900 feet. The average annual precipitation is 11 inches. Typically, the surface layer is grayish brown, fine sandy loam about 12 inches thick. The subsoil is light brownish, gray, fine sandy loam about 12 inches thick. Permeability is moderately rapid, and runoff is typically ponded to slow.

Soils mapped within the study area include the following, with soils mapping unit in (parentheses):

- Abo silt loam (1)
- Aeric Haplaquepts (5)
- Blalock loam (Bd)
- Draper loam (Dr)
- Moulton loam (My)
- Moulton loam, saline (Mw)
- Moulton fine sandy loam[1] (111)
- Oliaga loam (Og)
- Power silt loam (Ph, 129)
- Power-Purdam complex (Pp, 144)
- Purdam silt (Pr)
- Purdam silt loam (141)
- Xerollic Haplargids (198).

4.1.2 National Wetland Inventory (NWI)

The site falls within the Star, Middleton, and Eagle, Idaho NWI 7.5' USGS quadrangle maps, which are at a scale of 1:24,000. Two wetlands are mapped by the NWI within the study area (Figure 4). One is located near Northside Boulevard and is associated with Fifteenmile Creek (see Appendix A, Figure 5.4). The other is located east of Franklin Road and north of US 20/26. No water feature or wetlands were

[1] Hydric soil unit.

found at or in the vicinity of the NWI-mapped wetland near Franklin Road (Figure 4 and Appendix A, Figure 5.6).

4.1.3 Precipitation

Precipitation from April 22 through May 9, 2007 was 0.22 inches, recorded at the Boise weather station. No rain fell during field work. The total precipitation recorded for calendar year 2007 was 3.03 inches, a departure of -2.57 from the normal 5.60 inches (National Weather Service 2007). No measurable precipitation fell in the three weeks prior to the October 1, 2010 fieldwork (0.01 inches of rain were recorded in September 2010).

4.2 FIELD EVALUATION

4.2.1 Vegetation

Vegetation within the project area is highly disturbed by agriculture, residential development, irrigation ditch construction, roadside and ditch maintenance, landscaping, and any number of typical land uses adjacent to a major thoroughfare. Along and in the vicinity of canals, laterals, drainages, and other wet areas, vegetation is mostly herbaceous, with some tree species along the shorelines of Fifteenmile and Mason Creeks. Table 1 lists some of the plant species common to the project area.

Table 1. Plant Species Observed at the US 20/26 Project Area

Latin Name	Common Name	Wetland Indicator Status
Agropyron repens	Quackgrass	FAC
Anthemis cotula	Stinking daisy	FACU
Bidens sp. (prob. *B. cernua)*	Bedstraw	FACW
Brassica campestris	mustard	UPL
Bromus tectorum	Cheatgrass	UPL
Cichorium intybus	Chickory	UPL
Cirsium arvense	Canada thistle	FACU
Cirsium undulatum	Wavy-leaf thistle	FACU
Cirsium vulgare	Bull thistle	FACU
Echinochloa crus-galli	Barnyardgrass	FACW
Festuca arundinacea	Tall fescue	FAC
Grindelia squarrosa	Hook-headed grindelia	FACU
Heracleum lanatum	Cow parsnip	FAC
Hypericum perforatum	St. John's wort	UPL
Lactuca serriola	Prickly lettuce	FACU
Lolium multiflorum	Italian ryegrass	FACU
Meilotus alba	White sweetclover	FACU
Phalaris arundinacea	Reed canarygrass	FACW
Poa bulbosa	Bulbous bluegrass	NOL
Polygonum hydropiper	Marshpepper smartweed	OBL
Polygonum persicaria	Spotted lady's thumb	FACW
Polypogon monspeliensis	Rabbitfoot grass	FACW
Populus balsamifera	Cottonwood	FAC
Robinia pseudo-acacia	Black locust	FACU
Rumex acetosella	Sheep sorrel	FACU
Sagittaria latifolia	Wapato	OBL

Latin Name	Common Name	Wetland Indicator Status
Salix spp.	Willow	(prob. FAC or wetter)
Tanacetum vulgare	Tansy	NI
Tragopogon dubius	Goatsbeard	UPL
Trifolium repens	White clover	FAC
Typha latifolia	Cattail	OBL

Source: Parametrix 2010.

Dominant vegetation in Wetland A along Fifteenmile Creek includes cottonwood and willow with an understory of reed canarygrass, spotted lady's thumb, and bedstraw (Appendix A, Figure 5.3). Dominant vegetation in Wetland B along Mason Creek consists of cottonwood, willow, and black locust with an understory of reed canarygrass. Adjacent uplands are primarily cheatgrass and Italian ryegrass.

The dominant vegetation community in wetland areas C is pasture, comprised of mainly tall fescue, ryegrass, and reed canarygrass. Wetland area F includes significant cow parsnip and lance-leaf plantain with scattered bentgrass. Upland vegetation is typical of disturbed areas; opportunistic weedy species such as cheatgrass, prickly lettuce, tansy, and mustard species are common. Wetlands D and E no longer exist due to lack of hydrophilic vegetation.

Vegetation communities vary widely between the four pond features. Pond 1 includes wapato and reed canarygrass. Ponds 3 and 4 are landscaped with groomed lawns and non-native trees and shrubs. Pond 2 no longer exists.

4.2.2 Soils

One hydric soil is mapped in the study area: Moulton fine sandy loam. This soil is mapped near Eagle Road, north of US 20/26. No soils profiles were recorded in this area. Soils recorded in a low-lying area west of Phyllis Canal showed evidence of hydric (Sampling Point [SP]-1) and non-hydric (SP-2) characteristics. Soils in SP-1 lacked structure and appeared primarily to be recently deposited silty alluvium with fine and coarse sands. These soils appeared to be located entirely below the ordinary high water elevation of an adjacent, unlined irrigation ditch. Soils in the adjacent upland sample plot were similar in structure and color but lacked sand as a major component.

Soils in other areas vary from gravelly loams to fine silty loams in both wetland and non-wetland areas. Hydric soils in these wetland areas include redoximorphic features and low chroma. These characters contrasted with adjacent, non-hydric soils, which typically lacked redox features and/or displayed higher chroma.

4.2.3 Hydrology

The sources of hydrology in the canals, laterals, and irrigation ditches are various and complex. In general, waters conveyed by these features originate from, and drain to, the Boise River located approximately one mile to the north. Hydrology in Wetland A (Fifteenmile Creek) west of Northside Boulevard appears to be fed by surface and subsurface waters conveyed/released by an adjacent, unnamed irrigation ditch. Hydrology in Wetland B (Mason Creek) appears primarily derived from a near-surface aquifer and potentially from contributing subsurface (hyporheic) waters from an unlined canal located adjacent to the east.

Wetland hydrology at all other wetlands (C and F) appear influenced, at least in part, by nearby or adjacent irrigation canals, laterals, or ditches. Both of these wetlands appear hydrologically connected to the irrigation infrastructure that directly links to the Boise River. In the October 2015 field review it was determined that Wetland D and E no longer exist.

Hydrology for Pond 1 is driven by contributing flow from an irrigation ditch to the east. This irrigation ditch is connected to the regional irrigation complex. Pond 2 was not existent during the November 2015 fieldwork.

Ponds 3 and 4 are aesthetic landscape features fed directly by piped water. Both include piped outfall/overflow structures. Connections of these outfalls to other waters of the US could not be field verified in October.

5. WETLAND DETERMINATION

Wetland areas were identified associated with Fifteenmile Creek (Wetland A)(Appendix C, photographs 1 and 2) and Mason Creek (Wetland B)(Appendix C, photographs 3 and 4)(Appendix A, Figures 5.4 and 5.3, respectively). These features are vegetated riparian shorelines that appear to be flooded occasionally. Hydrology is likely driven by surface and hyporheic flows from the adjacent stream channels. Wetland A and B make up a total of approximately 1.74 acres of wetland within the study area (i.e., the entire right-of-way). At Wetland A, there are 0.57 acres of wetland located north of US 20/26 and 0.31 acres of wetland located south of the highway. At Wetland B, there are 0.70 acres of wetland located north of the highway and 0.16 acres located to the south.

Fifteenmile and Mason Creeks are natural streams and are thus jurisdictional waterways. Both are altered by channel straightening and armoring, and by vegetation clearing and landscaping throughout the study area. Consequently, the narrow riparian wetlands described above serve as valuable remnant habitat. Fifteenmile Creek retains marginal shade from mature trees along its banks. Shade is minimal along Mason Creek. Substrates in both consist of silts with limited gravels and cobbles. Neither stream appears connected to its historic floodplain.

Wetland C (Appendix A, Figure 5.8) is an approximately 0.60 acre palustrine emergent wetland located on either side of US 20-26 along a north-south oriented canal. Habitat functions for this wetland are affected by livestock grazing and manipulation of water levels.

Wetland D (Appendix A, Figure 5.2 and Appendix C, photographs 5 and 6) was a palustrine emergent, reed canarygrass-dominant feature measuring approximately 0.21 acres within the study area. A field visit in October 2015 determined this wetland no longer exists due to lack of vegetation. See photos in Appendix C. This feature extended outside the study area to the south. Grazing affected habitat functions of this feature.

Wetland E (Appendix A, Figure 5.4 and Appendix C, photographs 7 and 8) was a palustrine emergent wet pasture heavily affected by livestock grazing. A field visit in October 2015 determined this wetland no longer exists due to lack of wetland vegetation. See photos in Appendix C. Hydrology for this feature appeared to be heavily influenced by an irrigation ditch upslope to the north. Approximately 0.45 acres of this feature was located within the study area; the wetland extended north outside the study area to the edge of the irrigation ditch.

Wetland F (Appendix A, Figure 5.9 and Appendix C, photograph 9) is a small, triangularly shaped palustrine emergent wetland. A high percentage (~30%) of bare ground at this wetland and surrounding area appear due to grazing. Wetland F is approximately 0.16 acres in area.

Canals, laterals, and other irrigation features identified as potentially jurisdictional waterways were designated as such based on their ability to convey pollutants to navigable waters. The Corps considers man-made watercourses, such as canals, jurisdictional waters of the US if the watercourse provides a means of conveying contaminants or pollutants to waters of the US. In this area, the Boise River is both the primary source and the eventual outfall destination of waters in the irrigation channels.

Habitat functions associated with the unlined irrigation channels are confined within their banks. For those channels with extended periods of inundation, hydrophytic vegetation occurs at the water line

extending to near top of bank. Other unlined channels appear to be flooded less frequently, thus hydrophytic vegetation concentrates near the base of the channel prism. Vegetation is cleared from some of the unlined irrigation channels as a maintenance practice by the irrigation districts or property owners, thus the hydrologic regime was more difficult to determine. The concrete lined canals have minimal wetland function, serving as surface water conduits only. Approximately 5.9 miles of the 15.6 miles of irrigation channels within the study area are concrete lined.

Three manmade ponds/landscaped surface water features (Ponds 1, 3 and 4, Appendix C, photographs 10-12) were noted during field work. Pond 1 (Appendix A, Figure 5.10) appears to be jurisdictional based on its connectivity to surface irrigation features and is approximately 0.14 acres in size. The other two ponds (Appendix A, Figures 5.11 and 5.13) may not be jurisdictional based on evidence that none appear to have free and open connection to wetlands or potentially jurisdictional waterways. Ponds 3 and 4 are 0.40, and 0.29 acres in size, respectively. Pond 2 no longer exists. See photos in Appendix C.

The Corps is ultimately responsible for final jurisdictional determination on all wetlands/waters of the United States identified in this study. This study is for the purpose of a Preliminary Jurisdictional Determination.

6. FUNCTIONAL CAPACITY OF WETLANDS

6.1 MONTANA RAPID ASSESSMENT METHODOLOGY

The existing habitat was assessed to evaluate the functional capacity of the riparian/wetland system using the Montana Wetland Rapid Assessment Method Guidebook (Apfelbeck 2005). The wetland area, canals, and two streams were evaluated separately due to their dissimilar nature.

Table 2 lists the results from the functional evaluation. Overall, the wetland and waterways function poorly. Assessment forms are included in Appendix C.

Table 2. Results of HGM Evaluation, Rapid Assessment Method

Wetland Function – Summary of Ratings	Wetlands	Canals (Riverine)	Streams (Riverine)
Hydrogeomorphic Condition Index	0.20	0.50	0.27
Vegetation Condition Index	0.63	0.40	0.62
Water Quality Condition Index	-	0.75	0.75
Buffer Condition/Stressor Score	0.23	0.10	0.10
Wetland Impact Score	**0.42**	**0.51**	**0.51**
Overall Score	**0.38**	**0.44**	**0.46**
Overall Condition	**Poor**	**Poor**	**Poor**

7. CONCLUSION

The project area contains two riparian wetlands, two palustrine emergent wetlands, and three manmade open water features totaling approximately 3.33 acres. The project area also includes potentially jurisdictional irrigation canals, ditches and laterals. The two riparian wetland areas are associated with, and adjacent to, Mason Creek and Fifteenmile Creek. Riparian vegetation in these areas is the most intact habitat within the study area. These areas are found at the bottom of embankments confining both streams and appear subject to infrequent flooding.

It is estimated that the proposed widening of US 20/26 would impact approximately 0.24 acres of Wetland A and 0.22 acres of Wetland B for a total impact of 0.46 acres for the two riparian wetlands. The project will impact approximately 0.39, and 0.16 acres of Wetlands C and F, respectively. Wetlands D and E no longer exist. It was assumed that all three pond areas would also be impacted for a total impact to the ponds of 0.83 acres. The total combined estimated wetland impact would be 1.01 acres.

Manmade irrigation channels intersecting the study area may also be jurisdictional based on their connectivity to other jurisdictional waters. The total irrigation channel length within the study area is 15.6 miles. Pond 1 (Appendix A, Figure 5.10) has an open and evident connection to adjacent irrigation ditches, and is therefore likely a jurisdictional feature. Evidence that Ponds 3 and 4 maintain direct connections to jurisdictional waters could not be verified, and are assumed to be jurisdictional.

This report documents the investigation, best professional judgment and conclusions of the investigators.

8. REFERENCES

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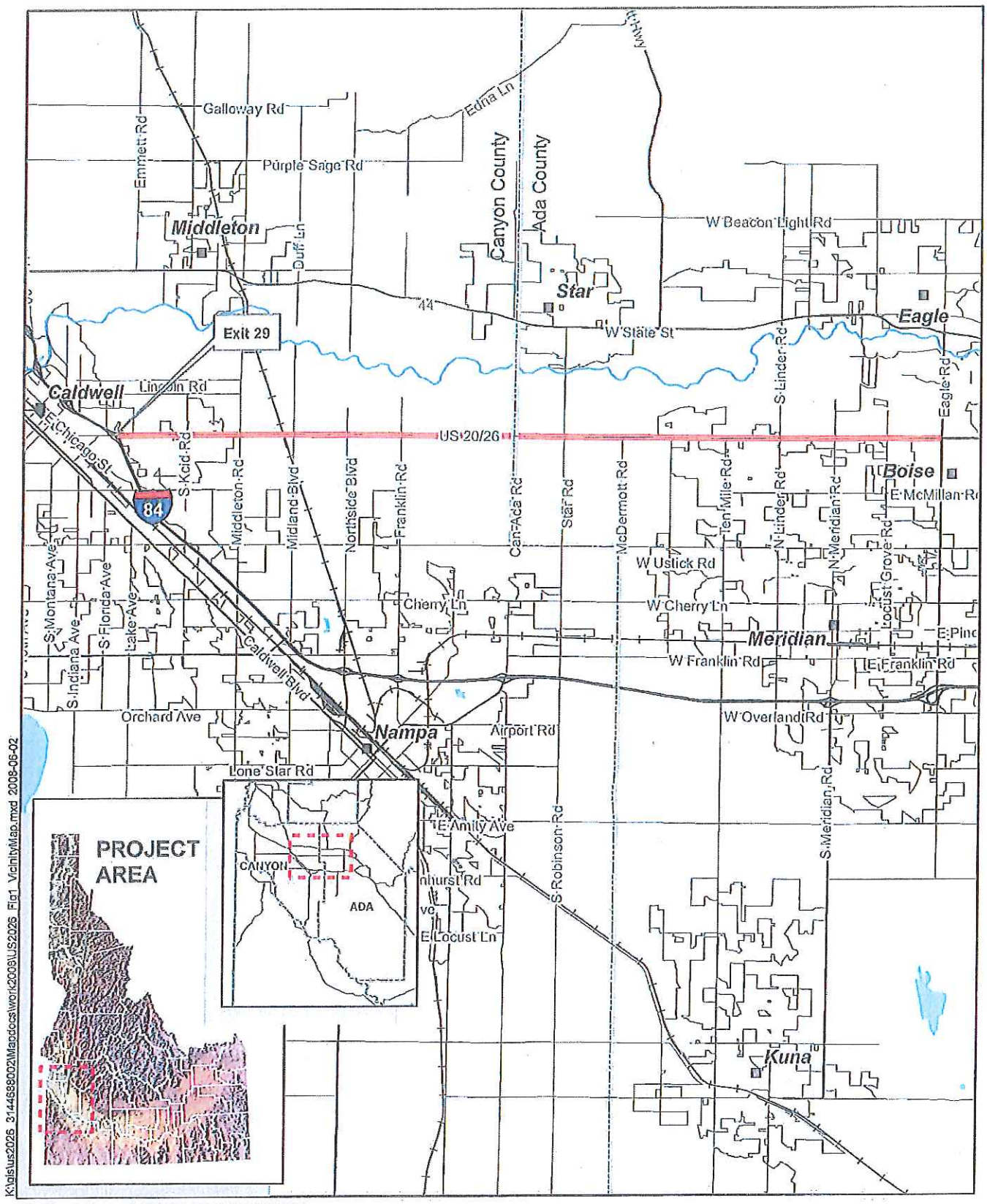
USFWS (US Fish and Wildlife Service). 1981. NWI 7.5’ Series Quadrangle Maps for Star, Middleton, Caldwell, Idaho.

APPENDIX A- Figures



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Data Source: Community Planning Association of SW Idaho

N

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Scale in Feet

US 20/26
Highway
Road
Railroad
County
Reservoir
Boise River
City Limits
Major City

Figure 1
Vicinity Map

US 20/26 Corridor
Preservation Study
Ada and Canyon Counties, ID

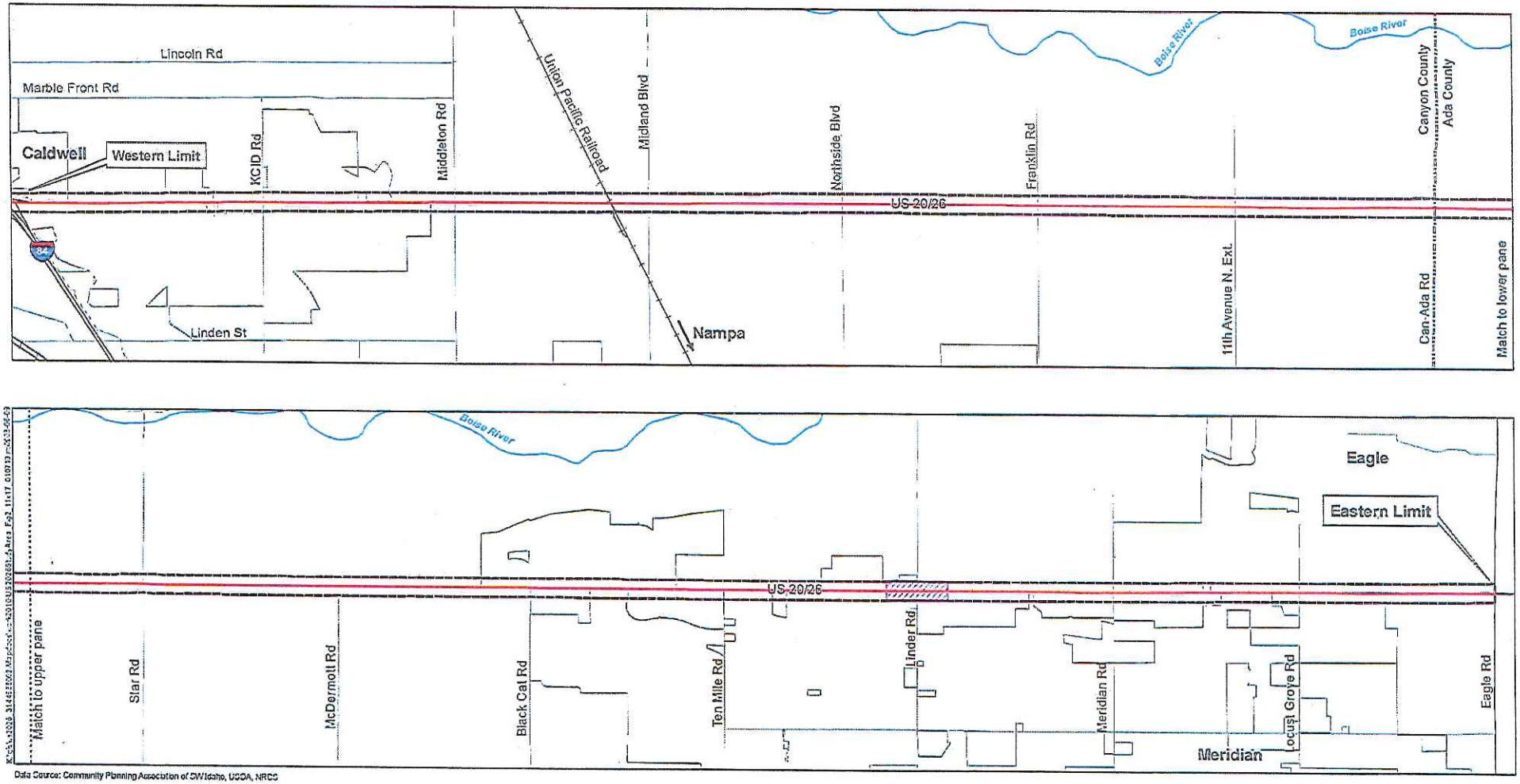


Figure 2
Study Area

US 20/26 Corridor
Preservation Study
Ada and Canyon Counties, ID

Data Source: Community Planning Association of SW Idaho, USDA, NRCS

0 N 3,500
Scale in Feet

Study Area
US 20/26
Highway
Railroad
Road

Canyon County Soils (Upper Pane)
- BdB, Baldock loam, 1 to 3 percent slopes
- DrA, Draper loam, 0 to 1 percent slopes
- MvA, Moulton loam, 0 to 1 percent slopes
- MwA, Moulton loam, saline, 0 to 1 percent slopes
- OgB, Ollaga loam, 1 to 3 percent slopes
- PhA, Power silt loam, 0 to 1 percent slopes
- PhB, Power silt loam, 1 to 3 percent slopes
- PpA, Power-Purdam silt loams, 0 to 1 percent slopes
- PpB, Power-Purdam silt loams, 1 to 3 percent slopes
- PpC, Power-Purdam silt loams, 3 to 7 percent slopes
- PrA, Purdam silt loam, 0 to 1 percent slopes
- PrB, Purdam silt loam, 1 to 3 percent slopes
- PsA, Purdam silt loam, water table, 0 to 1 percent slopes

Ada County Soils (Lower Pane)
- 1, Abo silt loam
- 129, Power silt loam, 0 to 2 percent slopes
- 141, Purdam silt loam, 0 to 2 percent slopes
- 142, Purdam silt loam, 2 to 4 percent slopes
- 144, Purdam-Power silt loams, 0 to 2 percent slopes
- 201, Water
- 5, Aeric Haplaquepts, nearly level

Figure 3
Soils

US 20/26 Corridor
Preservation Study
Ada and Canyon Counties, ID

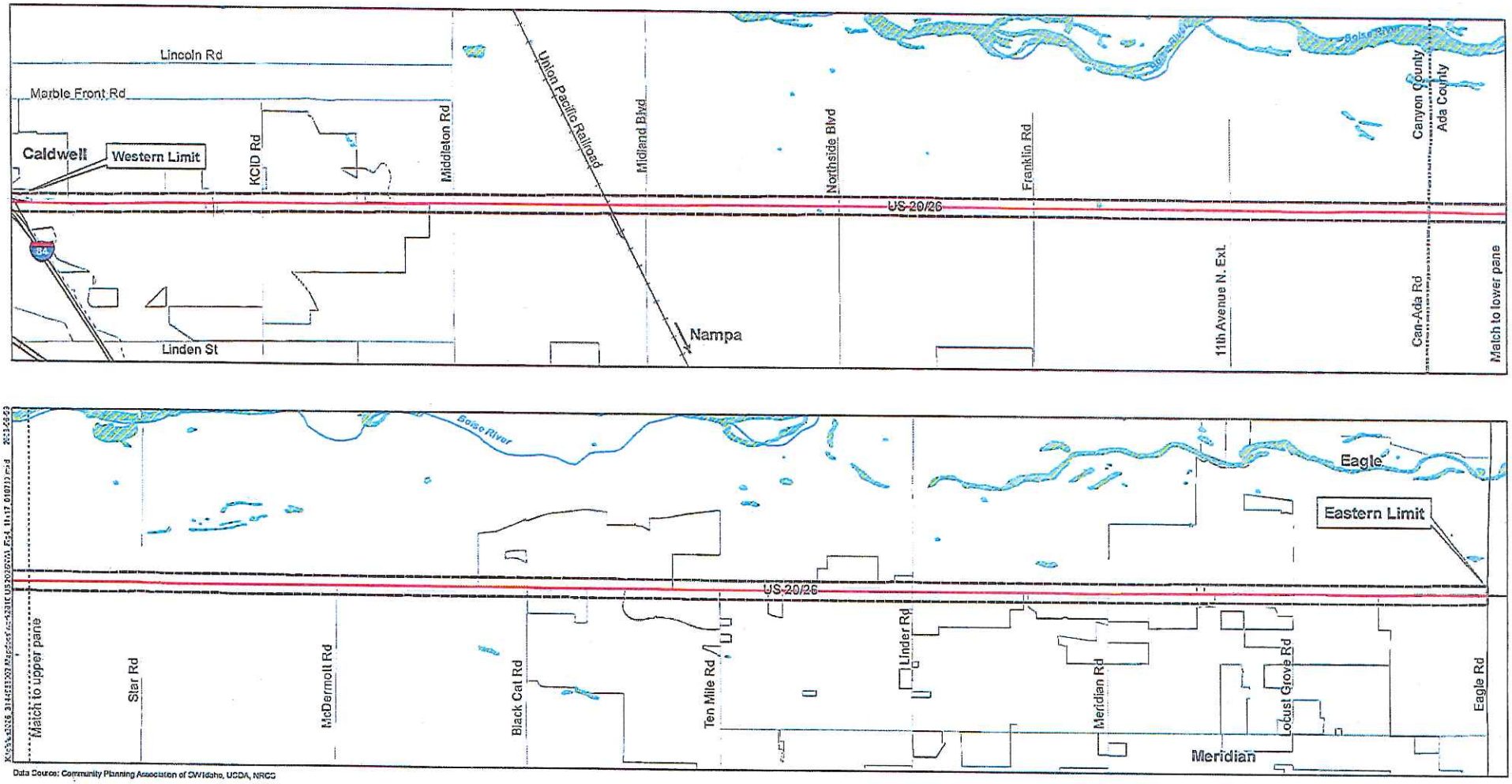
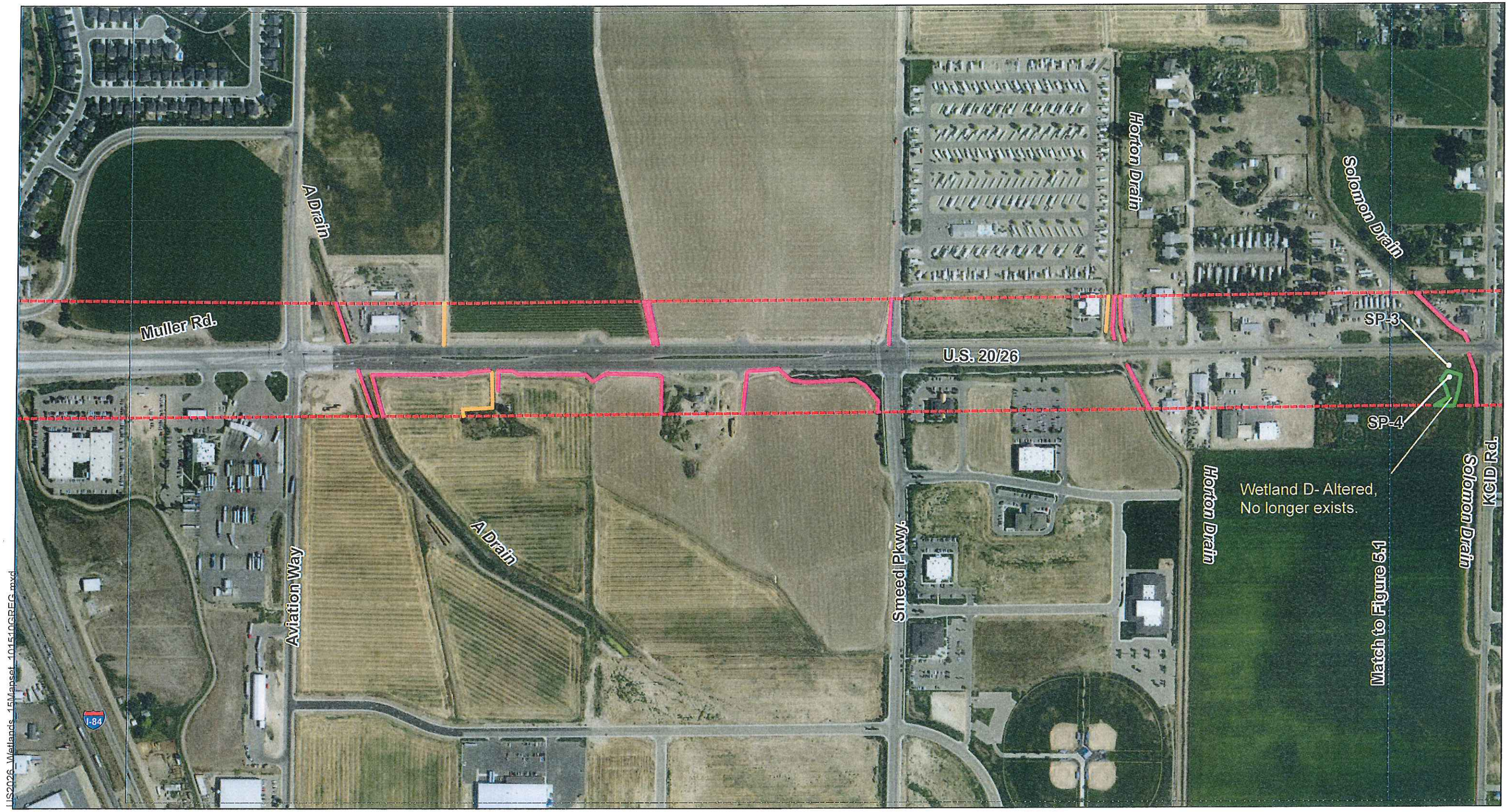


Figure 4
National Wetland Inventory (NWI)

US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID



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Scale in Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

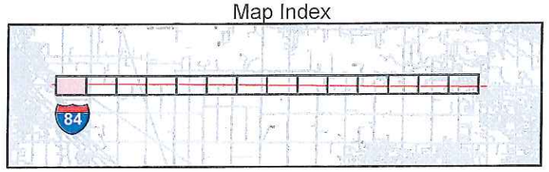
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index

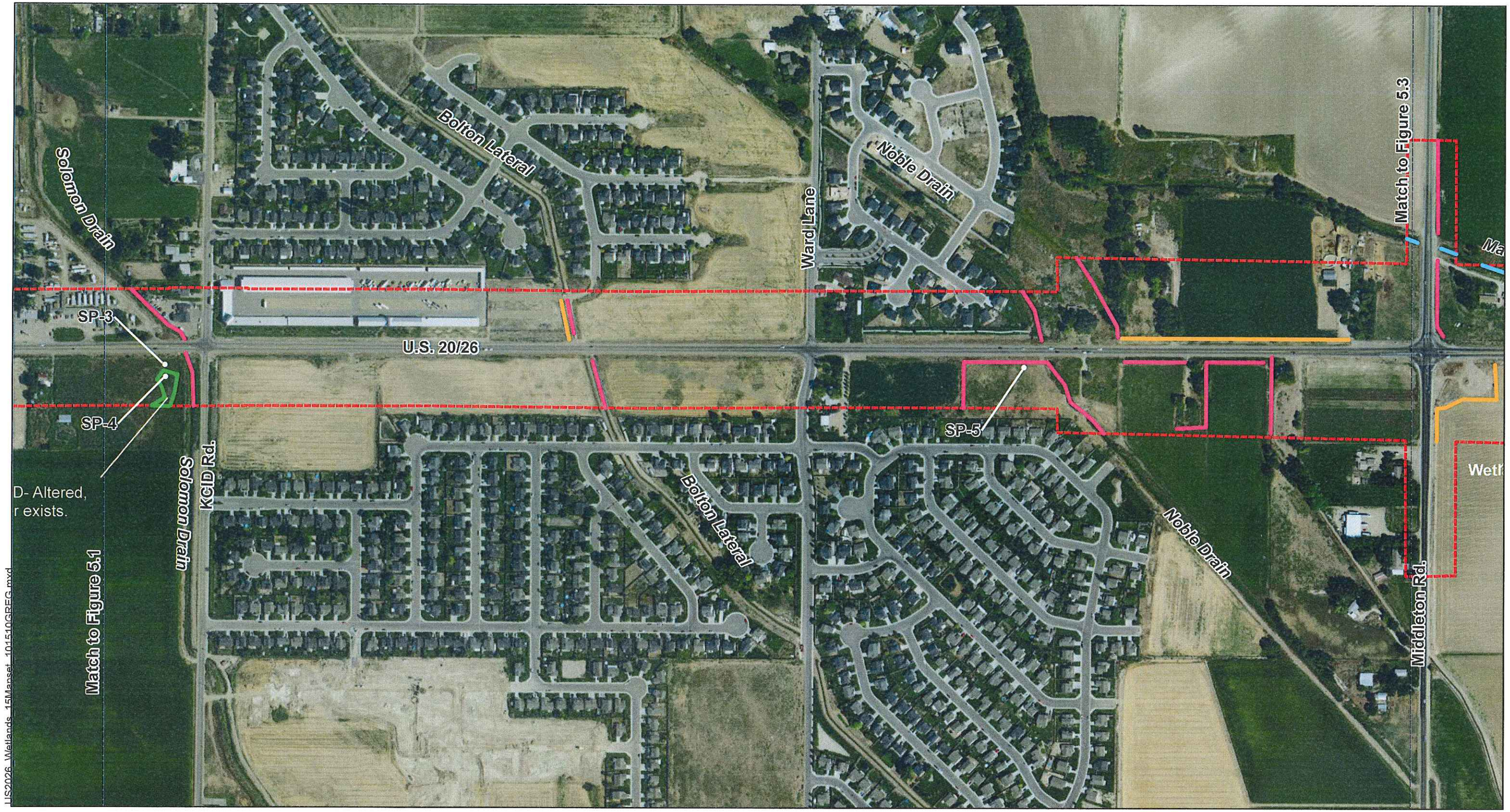


Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.1



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Scale in Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

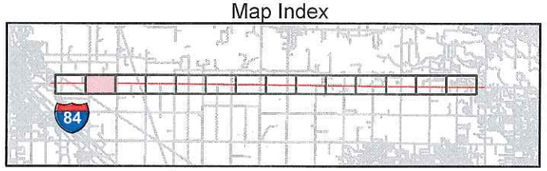
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index



Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.2

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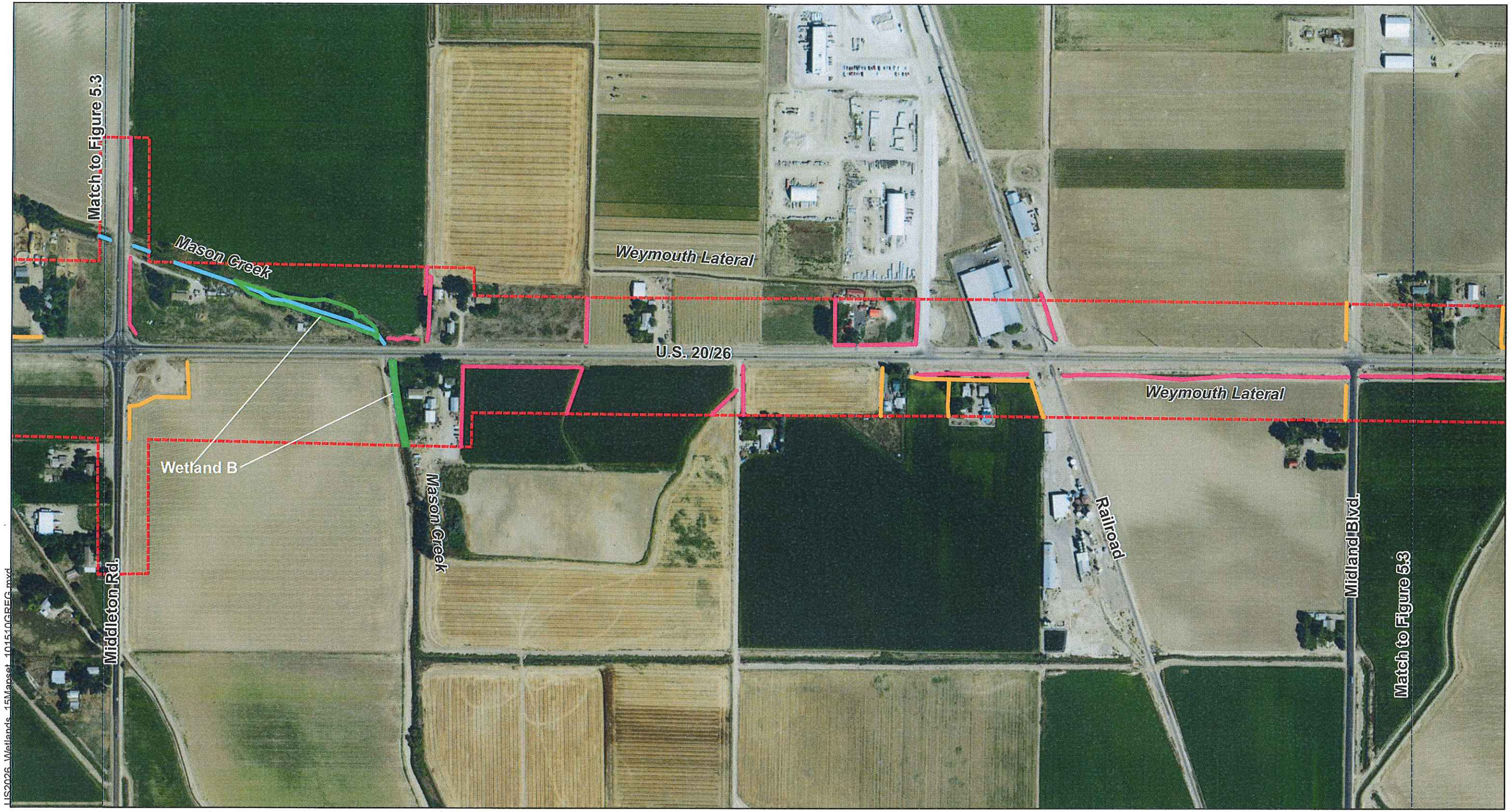

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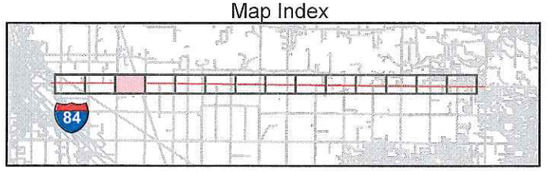
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index

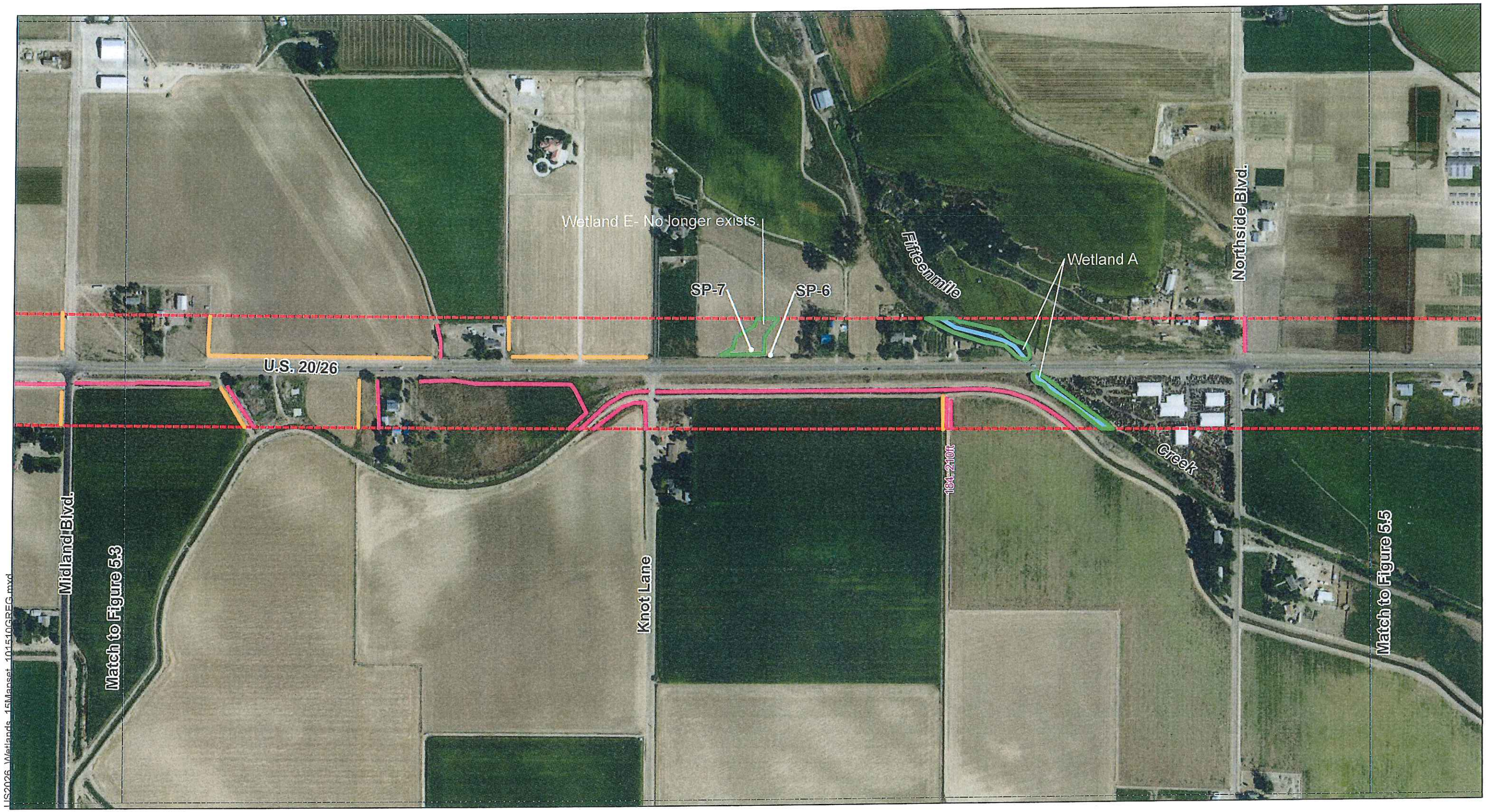


Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.3



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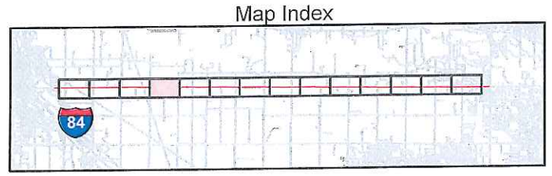
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index



Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.4

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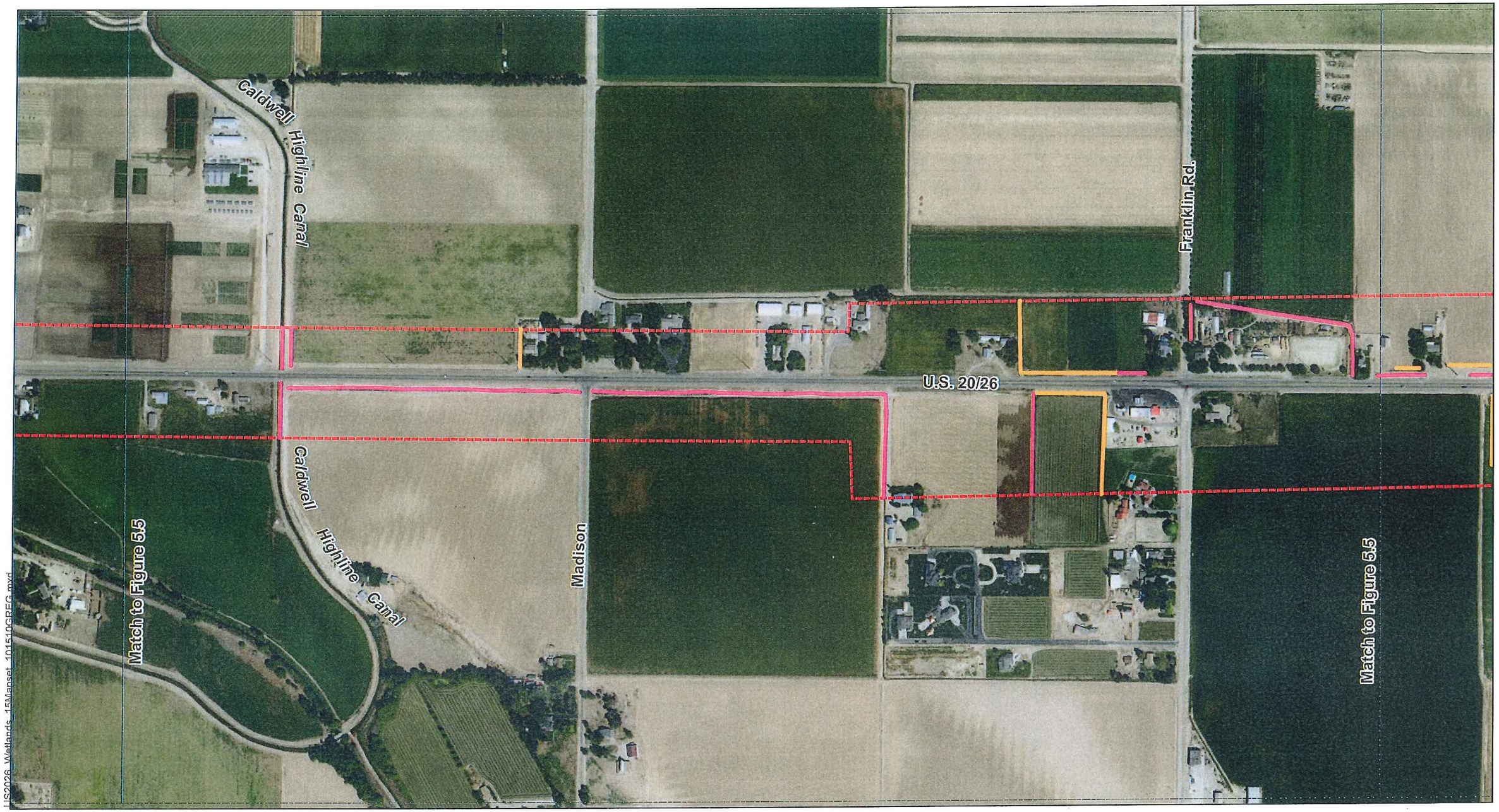

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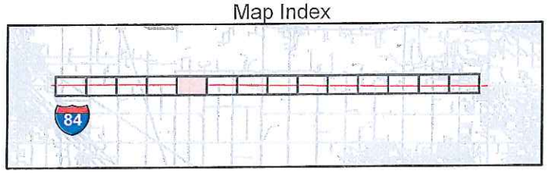
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index

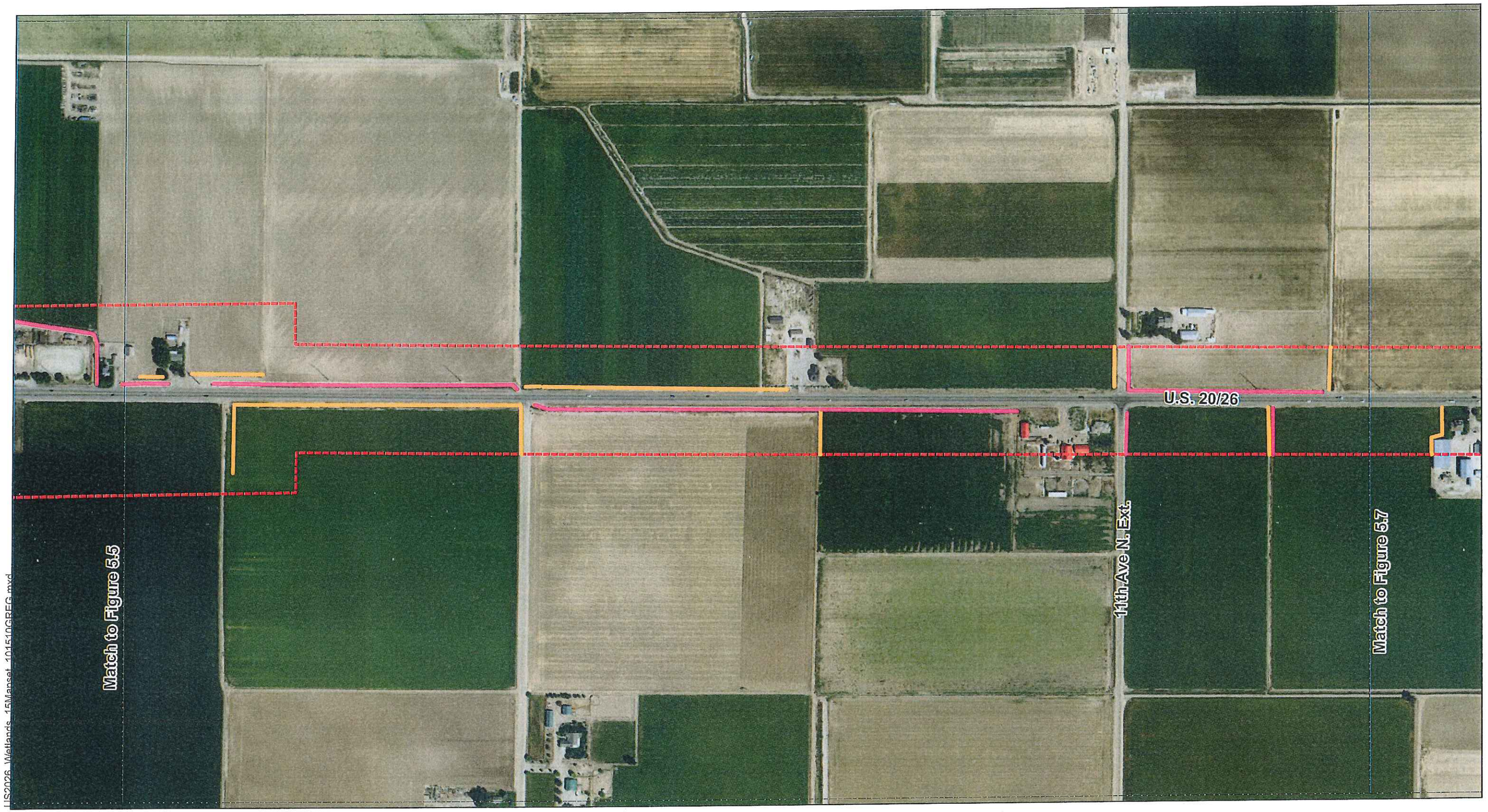


Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.5



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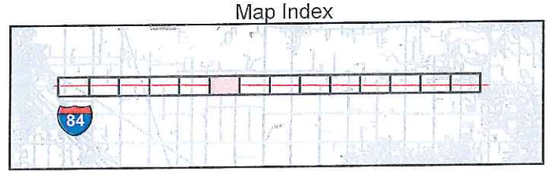
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index

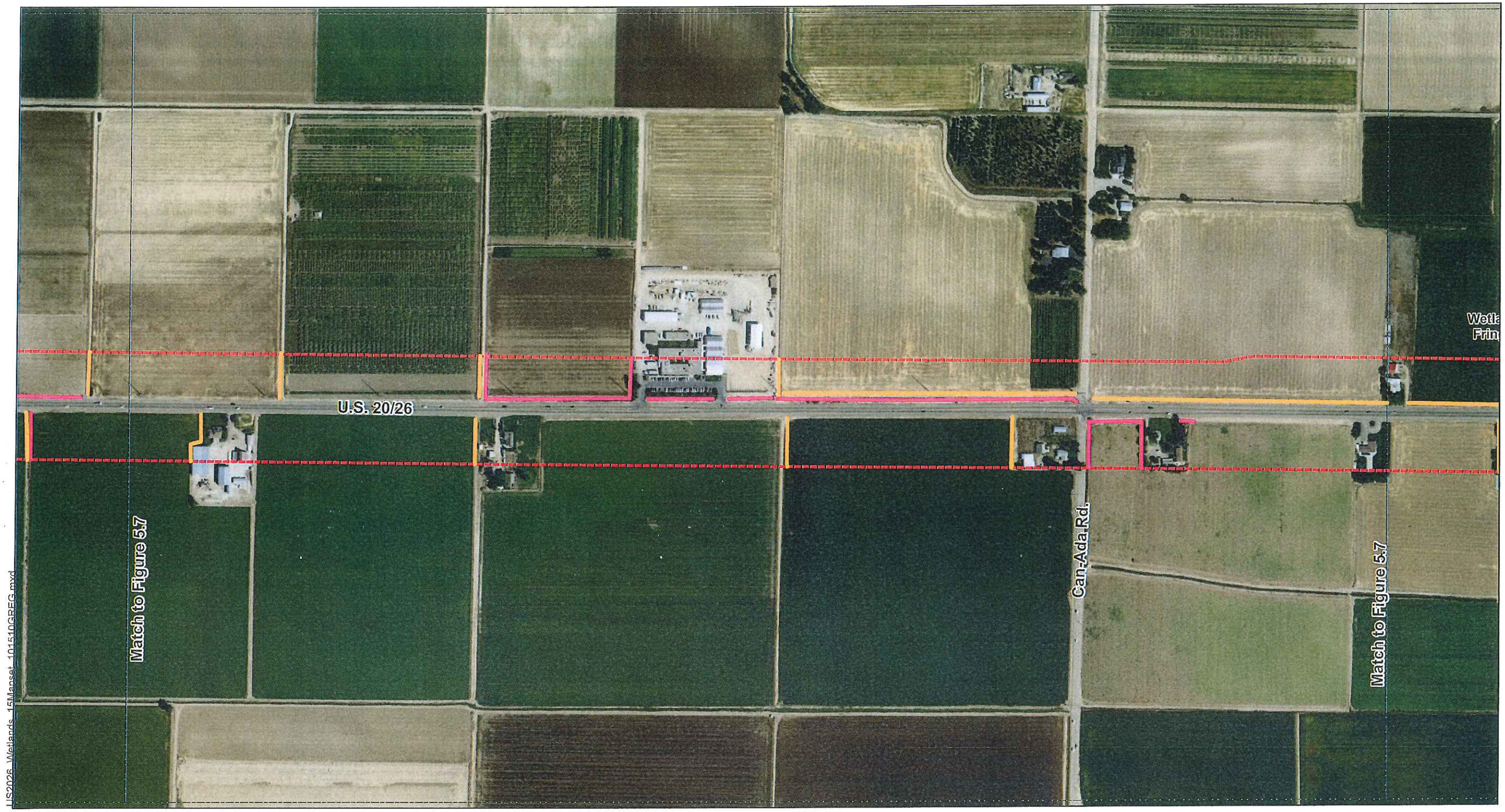


Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.6



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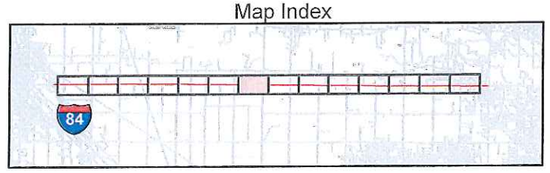
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index

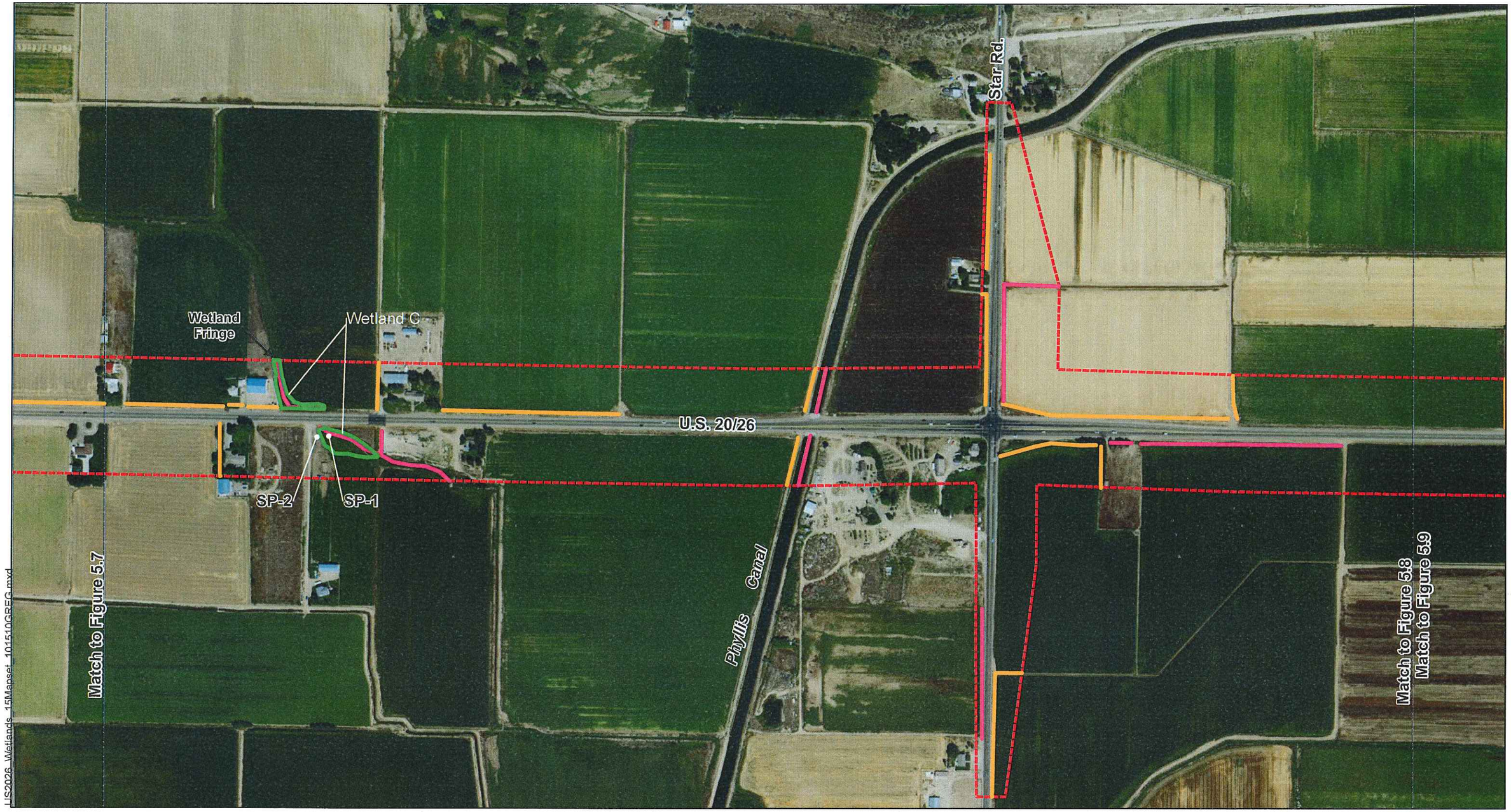


Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.7



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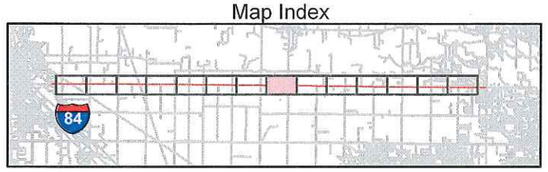
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index

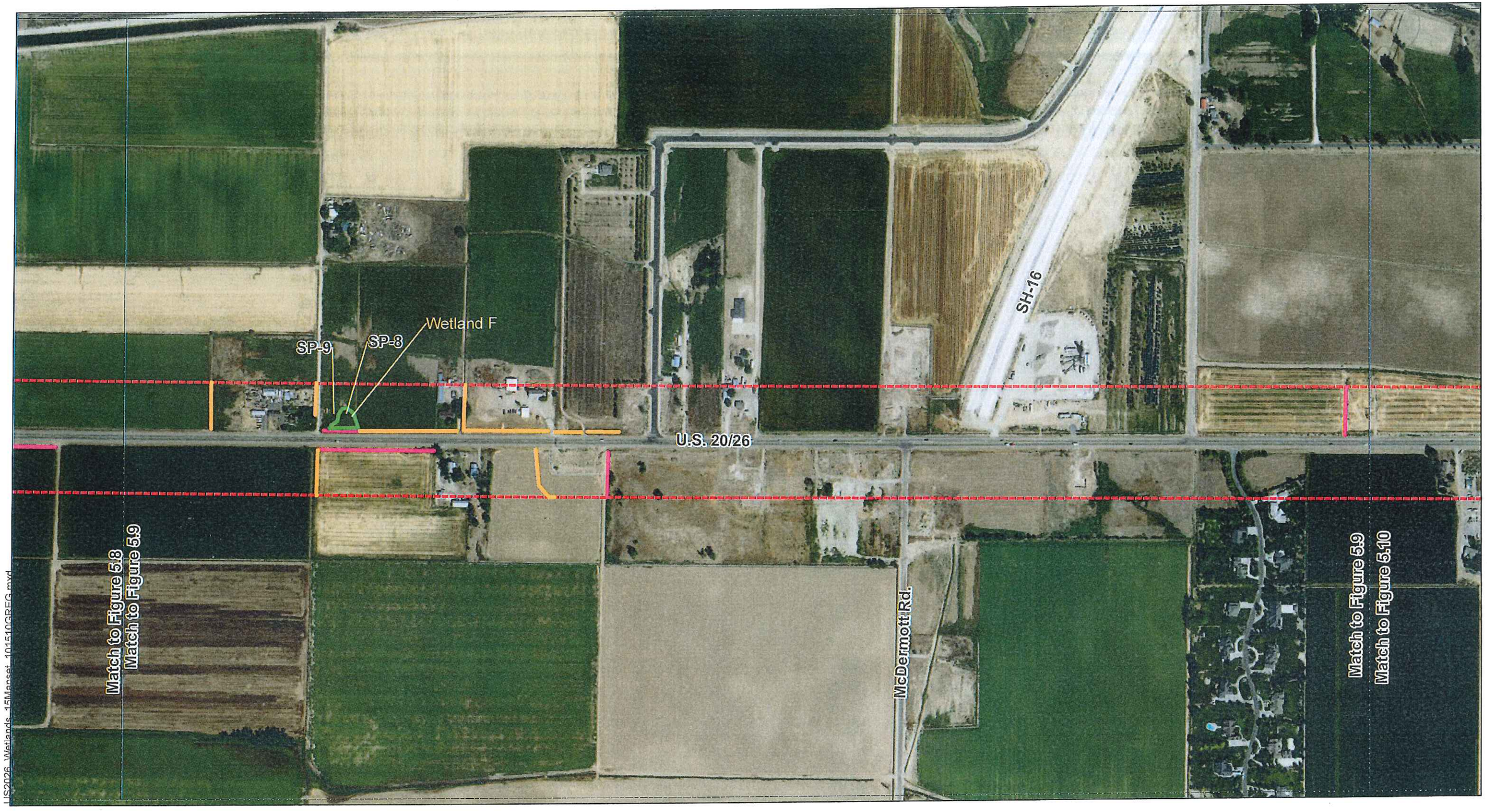


Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.8



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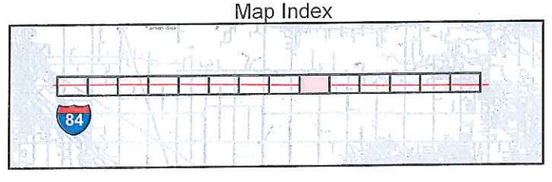
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index

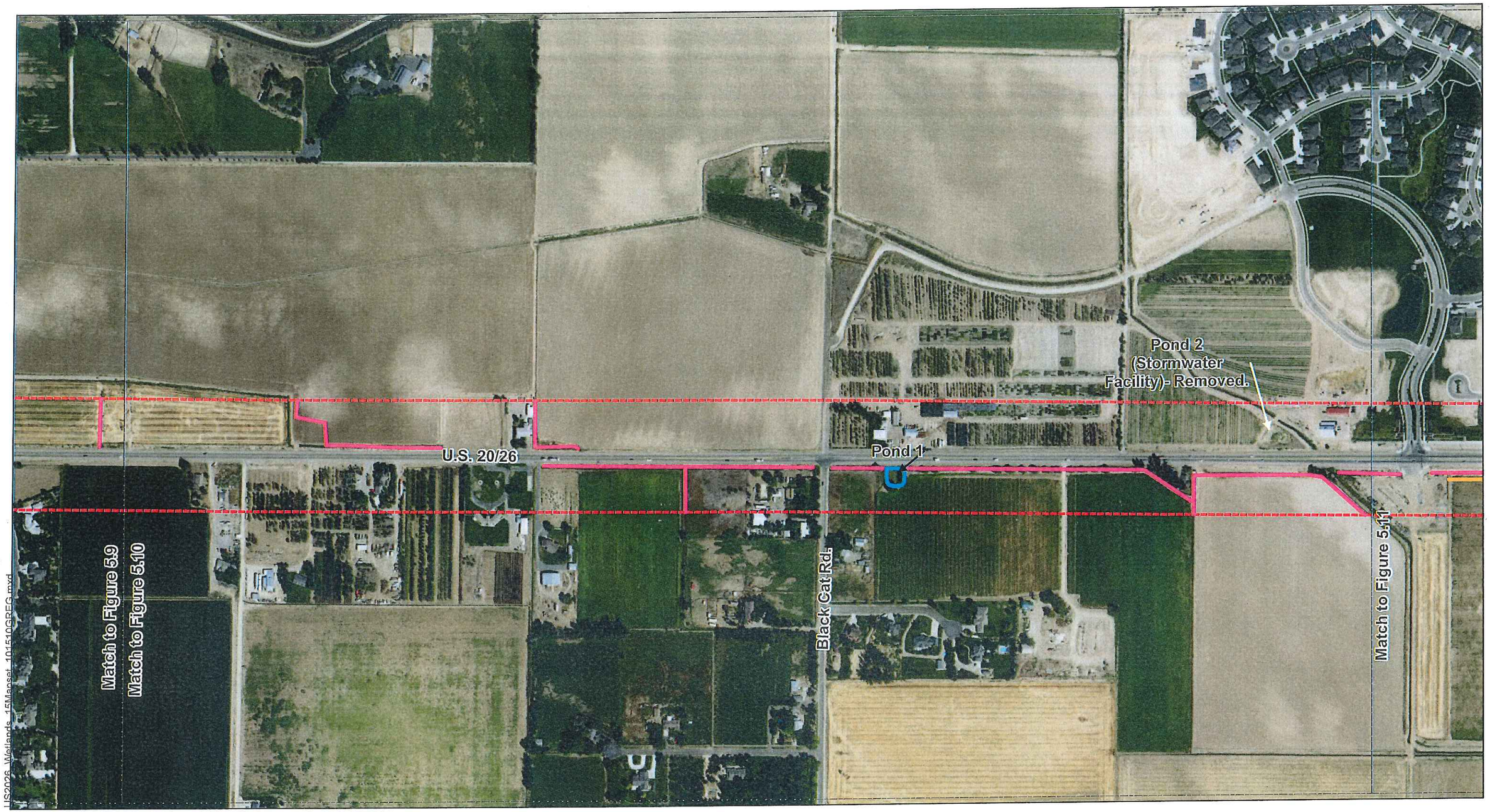


Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.9



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Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
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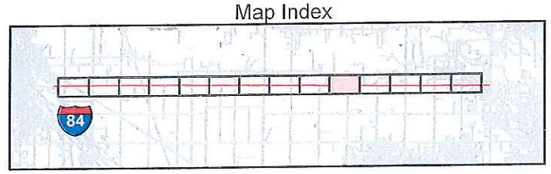
- Evaluation Area

Map Index

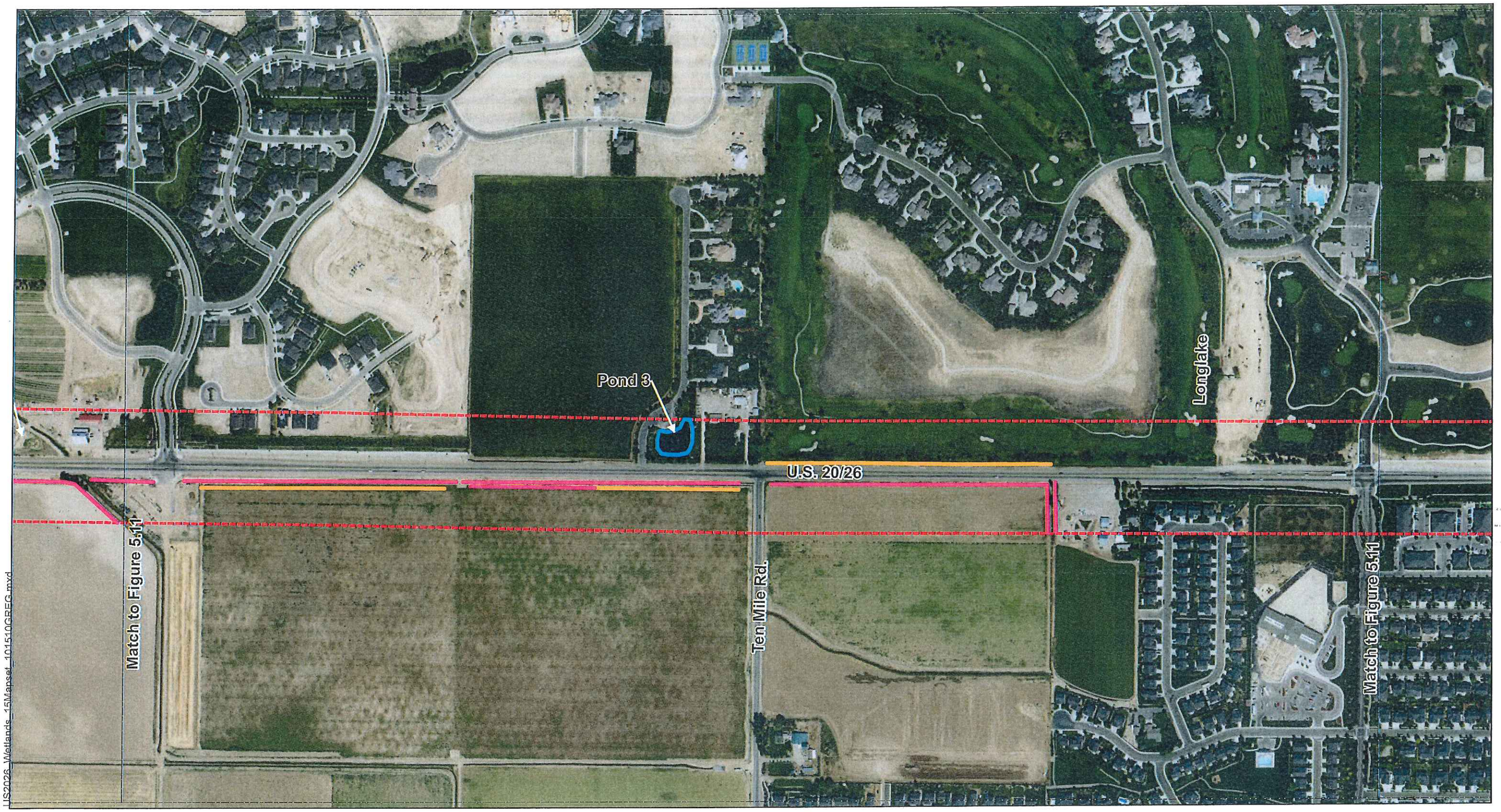


Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.10



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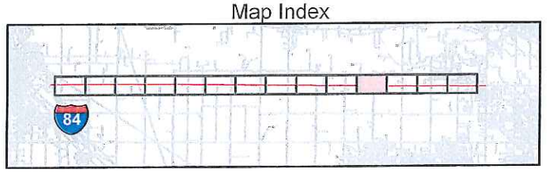
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index

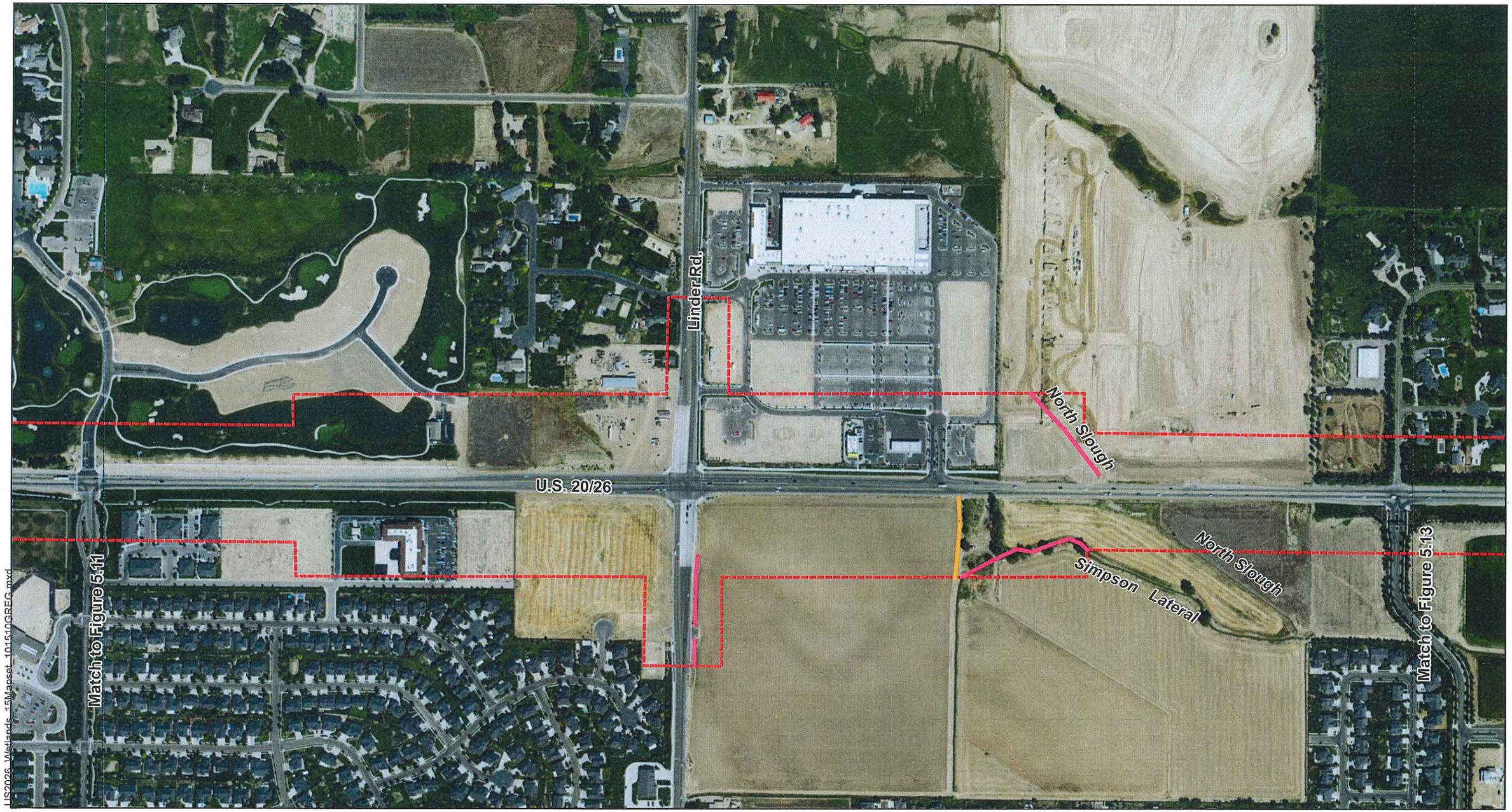


Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.11



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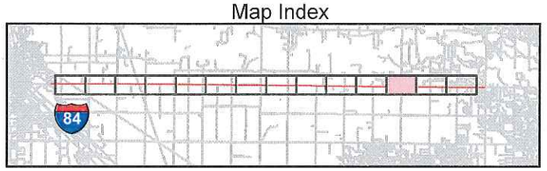
Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
- Natural Stream
- Potential Wetland Area
- Evaluation Area

Map Index



Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.12

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Legend

Wetlands

TYPE

- Concrete Lined Channel
- Unlined / Dirt Channel
- Pond
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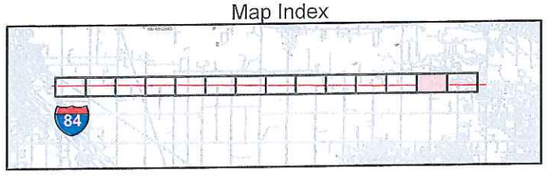
Map Index

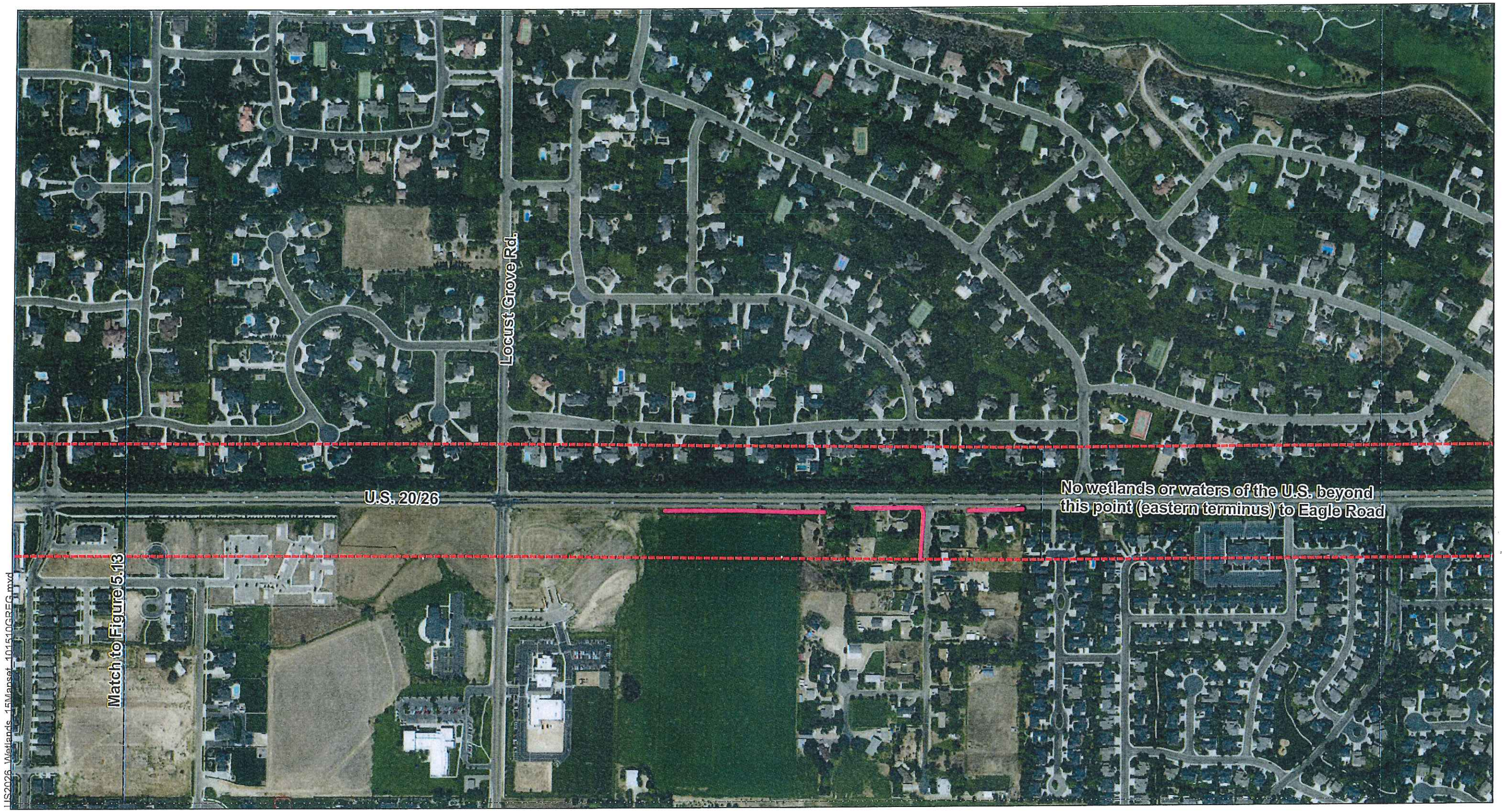


Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.13



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Legend

Wetlands

TYPE

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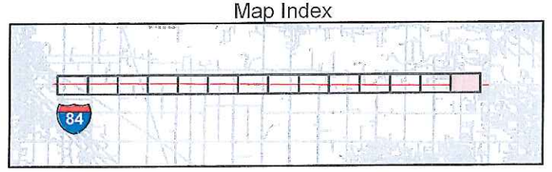
- Evaluation Area

Map Index



Potentially Jurisdictional Wetlands/Waters of the US

Key: 07826, US 20/26 Corridor Preservation Study
Ada and Canyon Counties, ID

Source: Field visit, Oct 28, 2015

Figure 5.14

APPENDIX B-Wetand Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: US Hwy 20-26 Corridor Preservation City/County: Ada & Canyon Counties Sampling Date: 10-11 May, 2007

Applicant/Owner: Idaho Transportation Dept/COMPASS State: ID Sampling Point: SP-1

Investigator(s): CM/TF Section, Township, Range: Sec. 30, T4N R1W

Landform (hillslope, terrace, etc.): valley bottom Local relief (concave, convex, none): Flat Slope (%): 0%

Subregion (LRR): Snake River Basin Lat: 43.654 Long: -116.503 Datum:

Soil Map Unit Name: Aeric Haplaquept NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No	**Is the Sampled Area within a Wetland?** **Yes X No**
Hydric Soil Present?	Yes x No	
Wetland Hydrology Present?	Yes x No	

Remarks: Sample plot located south of the 20-26 roadway prism, north of a fenced paddock, and just west of an irrigation canal channel. Evidence of herbicide application on roadway prism. This sample plot appears free from herbicide application and/or clearing during field work, thus circumstances deemed 'normal.'

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Phalaris arundinacea	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover: 100			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum <5% % Cover of Biotic Crust 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes x No**

Remarks:

Roadway prism to north appears treated with herbicides. Reed canarygrass somewhat controlled by grazing south of plot if fenced pasture.

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/3						Si	recent alluvium, no structure

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes x No _____

Remarks:

Soils appear to be recent alluvium. Soils are loose/grainy, and include non-decomposed organics.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- x Water Marks (B1) (**Riverine**)
- x Sediment Deposits (B2) (**Riverine**)
- x Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes x No _____ Depth (inches): 8”

Saturation Present? (includes capillary fringe) Yes x No _____ Depth (inches): 6”

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Potentially jurisdictional waterway feature is associated with adjacent irrigation canal. Surface and near surface water transmission from canal to surrounding pasture appears to support wetland features.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: US Hwy 20-26 Corridor Preservation City/County: Ada & Canyon Counties Sampling Date: 10-11 May, 2007

Applicant/Owner: Idaho Transportation Dept/COMPASS State: ID Sampling Point: SP-2

Investigator(s): CM/TF Section, Township, Range: Sec. 30, T4N R1W

Landform (hillslope, terrace, etc.): valley bottom Local relief (concave, convex, none): Flat Slope (%): 0%

Subregion (LRR): Snake River Basin Lat: 43.654 Long: -116.503 Datum:

Soil Map Unit Name: NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation x, Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No x

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No x	**Is the Sampled Area within a Wetland?** **Yes** **No x**
Hydric Soil Present?	Yes	No x	
Wetland Hydrology Present?	Yes	No x	

Remarks: Sample plot located south of the 20-26 roadway prism, north of a fenced paddock, and approximately 10 feet west of an irrigation canal. This area was recently burned based on charred vegetation and ash over the ground surface. Weedy, pioneer plant species have repopulated portions of the area.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. *Bromus tectorum*	10	Y	UPL
2. *Geranium* sp. (*G. pusillum?*)	<5	N	-
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	10		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 90% % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes** **No x**

Remarks:

Roadway prism to north appear treated with herbicides. Reed canarygrass somewhat controlled by grazing south of plot if fenced pasture.

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12+	10YR 3/3						SaSi	recent alluvium, no structure

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes x No _____

Remarks:

Soils appear to be recent alluvium. Soils are loose/grainy, and include rounded gravels.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Relatively close proximity to canal may account for soil appearing to be recent alluvium. However, elevation and distance from canal, vegetation break and lack of evidence of wetland hydrology point to non-wetland.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: US Hwy 20-26 Corridor Preservation City/County: Canyon County Sampling Date: 10/01/2010

Applicant/Owner: Idaho Transportation Dept./COMPASS State: ID Sampling Point: SP-03

Investigator(s): C. MacLaren Section, Township, Range: Sec. 19,T4N, R2W Boise Meridian

Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): Flat Slope (%): <1%

Subregion (LRR): Snake River Basin (LRR B) Lat: 43.662 Long: -116.628 Datum:

Soil Map Unit Name: NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation X Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?**	Yes	No X
Hydric Soil Present?	Yes	No X			
Wetland Hydrology Present?	Yes	No X			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		=Total Cover	

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 15' diam.)			
1. Lactuca serriola	15	n	FACU
2. Bromus tectorum	20	Y	UPL
3. Festuca arundinacea	30	Y	FAC
4. Agropyron sp.	30	Y	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95%	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 5% % Cover Biotic Crust:

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		**Multiply by:**
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

Site is pasture for livestock

SOIL

Sampling Point: SP-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6+	**10YR 4/3**						**Gravelly Si Lm**	**Excav. Refusal @ 6" due to signif. gravel component. Gravels rounded to sub-rounded**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ **Stratified Layers (A5)(LRR C)**
- ___ **1 cm Muck (A9)(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9)(L,RR C)
- ___ **2 cm Muck (A10)(LRR C)**
- ___ **Reduced Vertic (F18)**
- Red Parent Material (TF2)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: n/a

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks: Dry. Significant gravel component from surface downward.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)(Nonriverine)
- ___ Sediment Deposits (B2)(Nonriverine)
- ___ Drift Deposits (B3)(Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ **Biotic Crust (B12)**
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ **Water Marks (B1)(Riverine)**
- ___ Sediment Deposits (B2)(Riverine)
- ___ Drift Deposits (B3)(Riverine))
- ___ Drainage Patterns (B10)
- ___ Dry Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ **Saturation visible on Aerial Imagery (C9)**
- ___ Shallow Aquatard (D3)
- **FAC-Neutral Test (D5)**

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No x Depth (inches): ___

Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Just inside fence in NE corner of field.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: US Hwy 20-26 Corridor Preservation City/County: Ada & Canyon Counties Sampling Date: 10/01/2010

Applicant/Owner: Idaho Transportation Dept./COMPASS State: ID Sampling Point: SP-04

Investigator(s): C. MacLaren Section, Township, Range: 19, T4N, R2W

Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): Flat Slope (%): <1%

Subregion (LRR): Snake River Basin (LRR B) Lat: 43.662 Long: -116.628 Datum:

Soil Map Unit Name: NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation X Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present?	Yes	X	No		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		=Total Cover	

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 15' diam.)			
1. Poa sp.	25	n*	(FACU)
2. Phalaris arundinacea	15	n	FACW
3. Festuca arundinacea	30	Y	FAC
4. Agropyron repens	30	Y	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 0 % Cover Biotic Crust: 0

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Sample plot located within reed canarygrass growth in subtle depression

SOIL

Sampling Point: SP-04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18+	**10YR 4/2**						**Si lm**	**Few, fine 10YR5/6 redox soils**
								Stiff (compacted?).

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ **Stratified Layers (A5)(LRR C)**
- ___ **1 cm Muck (A9)(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- **X** Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9)(L,RR C)
- ___ **2 cm Muck (A10)(LRR C)**
- ___ **Reduced Vertic (F18)**
- Red Parent Material (TF2)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** **X** **No** _____

Remarks: Area low-lying and slightly greener than adjacent areas.
Surface flat (i.e. no hummocks or ruts)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)(Nonriverine)
- ___ Sediment Deposits (B2)(Nonriverine)
- ___ Drift Deposits (B3)(Nonriverine)
- **X** Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ **Biotic Crust (B12)**
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ **Water Marks (B1)(Riverine)**
- ___ Sediment Deposits (B2)(Riverine)
- ___ Drift Deposits (B3)(Riverine))
- ___ Drainage Patterns (B10)
- ___ Dry Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ **Saturation visible on Aerial Imagery (C9)**
- ___ Shallow Aquatard (D3)
- **FAC-Neutral Test (D5)**

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Soils slightly moist. Hummocky surface. Weak evidence of wetland hydrology.
Sample plot located ~15-20 feet SW of SP-03

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: US Hwy 20-26 Corridor Preservation City/County: Ada & Canyon Counties Sampling Date: 10/01/2010

Applicant/Owner: Idaho Transportation Dept./COMPASS State: ID Sampling Point: SP-05

Investigator(s): C. MacLaren Section, Township, Range: Sec 20, T4N, R2W

Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): Flat Slope (%): <1%

Subregion (LRR): Snake River Basin (LRR B) Lat: 43.662 Long: -116.602 Datum:

Soil Map Unit Name: NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation X Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?**	Yes No X
Hydric Soil Present?	Yes	No X		
Wetland Hydrology Present?	Yes	No X		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		=Total Cover	

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 15' diam.)			
1. Lactuca serriola	15	N	FACU
2. Tanacetum vulgare	5	N	NI
3. Festuca arundinacea	70	Y	FAC
4. Brassica campestris	5	N	UPL
5. Hypericum perforatum	5	N	UPL
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: % Cover Biotic Crust:

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	70	x 3 =	210
FACU species	15	x 4 =	60
UPL species	10	x 5 =	50
Column Totals:	95 (A)		320 (B)

Prevalence Index = B/A = 3.37

Hydrophytic Vegetation Indicators:

- Y – Dominance Test is >50%
- N – Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Wetland Non-Vascular Plants[1]
- X – Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Determination based on "Prevalence Index"
Tall fescue is a problematic wetland indicator species in this region. Vegetation has been grazed.

SOIL

Sampling Point: SP-05

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**10YR 4/3**						**Silm**	
3-16+	**10YR4/2**						**Silm**	**No mottles**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ **Stratified Layers (A5)(LRR C)**
- ___ **1 cm Muck (A9)(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9)(L,RR C)
- ___ **2 cm Muck (A10)(LRR C)**
- ___ **Reduced Vertic (F18)**
- Red Parent Material (TF2)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks: Flat surface. Dry to 16”

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)(Nonriverine)
- ___ Sediment Deposits (B2)(Nonriverine)
- ___ Drift Deposits (B3)(Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ **Biotic Crust (B12)**
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ **Water Marks (B1)(Riverine)**
- ___ Sediment Deposits (B2)(Riverine)
- ___ Drift Deposits (B3)(Riverine))
- ___ Drainage Patterns (B10)
- ___ Dry Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ **Saturation visible on Aerial Imagery (C9)**
- ___ Shallow Aquatard (D3)
- **FAC-Neutral Test (D5)**

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sample plot located in apparent lowest point in field outside of the irrigation ditches.
Shallow irrigation ditches located along perimeter of field/fence
Grazed field - Upland

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: US Hwy 20-26 Corridor Preservation City/County: Ada & Canyon Counties Sampling Date: 10/01/2010

Applicant/Owner: Idaho Transportation Dept./COMPASS State: ID Sampling Point: SP-06

Investigator(s): C. MacLaren Section, Township, Range: Sec. 21, T4N, R2W

Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): Flat Slope (%): <1%

Subregion (LRR): Snake River Basin (LRR B) Lat: 43.664 Long: -116.580 Datum:

Soil Map Unit Name: NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation X Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?**	Yes No **X**
Hydric Soil Present?	Yes	No X		
Wetland Hydrology Present?	Yes	No X		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		=Total Cover	

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 15' diam.)			
1. Cichorium intybus	3		UPL
2. Cirsium vulgare	2		FACU
3. Grindelia squarrosa	Tr		FACU
4. Trifolium repens	25		FAC
5. Rumex acetosella	5		FACU
6. Festuca arundinacea	60		FAC
7. Epilobium ciliatum	5		FACW
8.			
9.			
10.			
11.			
	100	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	100	= Total Cover	

% Bare Ground in Herb Stratum: 0 % Cover Biotic Crust: 0

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	5	x 2 =	10
FAC species	85	x 3 =	255
FACU species	7	x 4 =	28
UPL species	3	x 5 =	15
Column Totals:	100 (A)		308 (B)

Prevalence Index = B/A = 3.08

Hydrophytic Vegetation Indicators:

- Y – Dominance Test is >50%
- N – Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Wetland Non-Vascular Plants[1]
- X – Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Prevalence Index criterion not met for wetland, but weakly. Dominance test indicative of wetland vegetation. Site located in transitional area – best professional judgment call. Area is heavily grazed.

SOIL

Sampling Point: SP-06

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**10YR 4/3**						**Si lm**	**compacted**
3-20+	**10YR4/3**						**Si lm**	**Fine si lm, loose/porous**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ **Stratified Layers (A5)(LRR C)**
- ___ **1 cm Muck (A9)(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9)(L,RR C)
- ___ **2 cm Muck (A10)(LRR C)**
- ___ **Reduced Vertic (F18)**
- Red Parent Material (TF2)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks: Dry to sl. Moist below 3"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)(Nonriverine)
- ___ Sediment Deposits (B2)(Nonriverine)
- ___ Drift Deposits (B3)(Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ **Biotic Crust (B12)**
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ **Water Marks (B1)(Riverine)**
- ___ Sediment Deposits (B2)(Riverine)
- ___ Drift Deposits (B3)(Riverine))
- ___ Drainage Patterns (B10)
- ___ Dry Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ **Saturation visible on Aerial Imagery (C9)**
- ___ Shallow Aquatard (D3)
- **FAC-Neutral Test (D5)**

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: NE of US 20/26 unnamed driveway. Ag. Field, sloped s. towards 20/26. Heavily grazed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: US Hwy 20-26 Corridor Preservation City/County: Ada & Canyon Counties Sampling Date: 10/01/2010

Applicant/Owner: Idaho Transportation Dept./COMPASS State: ID Sampling Point: SP-07

Investigator(s): C. MacLaren Section, Township, Range: Sec 21, T4N, R2W

Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): Flat Slope (%): <1%

Subregion (LRR): Snake River Basin (LRR B) Lat: 43.664 Long: -116.580 Datum:

Soil Map Unit Name: NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation X Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No		
Hydric Soil Present?	Yes		No	X	**Is the Sampled Area within a Wetland?** Yes No X
Wetland Hydrology Present?	Yes	X	No		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		=Total Cover	

Sapling/Shrub Stratum (Plot size: 30' diam.)			
1. Rosa sp. (one bush)	tr		FAC
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 15' diam.)			
1. Polygonum hydropiper	10		OBL
2. Cichorium intybus	tr		UPL
3. Agrostis sp. (resembles A. tenuis)	10		FAC
4. Festuca arundinacea	70		FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 10 % Cover Biotic Crust: 0

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:			**Multiply by:**
OBL species	10	x 1 =	10
FACW species	10	x 2 =	20
FAC species	70	x 3 =	210
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	90 (A)		240 (B)

Prevalence Index = B/A = 2.67

Hydrophytic Vegetation Indicators:

- Y Dominance Test is >50%
- Y Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	**10YR 4/2**						**Silm**	
3-18+	**10YR4/3**						**Silm**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ **Stratified Layers (A5)(LRR C)**
- ___ **1 cm Muck (A9)(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9)(L,RR C)
- ___ **2 cm Muck (A10)(LRR C)**
- ___ **Reduced Vertic (F18)**
- Red Parent Material (TF2)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks: Site heavily grazed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)(Nonriverine)
- X Sediment Deposits (B2)(Nonriverine)
- ___ Drift Deposits (B3)(Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___
- ___ Salt Crust (B11)
- ___ **Biotic Crust (B12)**
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- X Other (Explain in Remarks)
- ___

Secondary Indicators (2 or more required)

- ___ **Water Marks (B1)(Riverine)**
- ___ Sediment Deposits (B2)(Riverine)
- ___ Drift Deposits (B3)(Riverine))
- ___ Drainage Patterns (B10)
- ___ Dry Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ **Saturation visible on Aerial Imagery (C9)**
- ___ Shallow Aquatard (D3)
- X **FAC-Neutral Test (D5)**

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Algal mats present in lower areas. Hummocky surface area.
Hydrology appears entirely derived from irrigation-ditch leakage upslope.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: US Hwy 20-26 Corridor Preservation City/County: Ada & Canyon Counties Sampling Date: 10/01/2010

Applicant/Owner: Idaho Transportation Dept./COMPASS State: ID Sampling Point: SP-08

Investigator(s): C. MacLaren Section, Township, Range: Sec. 22, T4N, R1W

Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): Flat Slope (%): <1%

Subregion (LRR): Snake River Basin (LRR B) Lat: 43.664 Long: -116.451 Datum:

Soil Map Unit Name: NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation x Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?**	Yes ____	No X
Hydric Soil Present?	Yes X	No ____			
Wetland Hydrology Present?	Yes X	No ____			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		=Total Cover	

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 15' diam.)			
1. Agricultural Crops- corn	100	Y	
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 40 % Cover Biotic Crust: 0

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:			Multiply by:
OBL species	____	x 1 =	____
FACW species	____	x 2 =	____
FAC species	60	x 3 =	180
FACU species	____	x 4 =	____
UPL species	____	x 5 =	____
Column Totals:	60	(A)	180 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

N Dominance Test is >50% Y

Prevalence Index is ≤3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Wetland Non-Vascular Plants[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: SP-08

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20+	**10YR 4/3**	**100**	**7.5YR 4/4, 4/6**	**2%**	**C**	**M**	**Silm**	**Soils loose, friable**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ **Stratified Layers (A5)(LRR C)**
- ___ **1 cm Muck (A9)(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- **X** Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9)(L,RR C)
- ___ **2 cm Muck (A10)(LRR C)**
- ___ **Reduced Vertic (F18)**
- Red Parent Material (TF2)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** **X** **No** _____

Remarks: Slightly hummocky. Weak indications that soils forming under hydric conditions.
Dry to moist below 2". Low spots may be flooded by irrigation ditch to south along US 20/26.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)(Nonriverine)
- ___ Sediment Deposits (B2)(Nonriverine)
- ___ Drift Deposits (B3)(Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ **Biotic Crust (B12)**
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- **X** Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ **Water Marks (B1)(Riverine)**
- ___ Sediment Deposits (B2)(Riverine)
- ___ Drift Deposits (B3)(Riverine))
- ___ Drainage Patterns (B10)
- ___ Dry Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ **Saturation visible on Aerial Imagery (C9)**
- ___ Shallow Aquatard (D3)
- **FAC-Neutral Test (D5)**

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes **X** No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Area slightly more hummocky than nearby pasture.
Marginal wetland call. Water source appears to be from irrigation leakage from unlined ditch to south.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: US Hwy 20-26 Corridor Preservation City/County: Ada & Canyon Counties Sampling Date: 10/01/2010

Applicant/Owner: Idaho Transportation Dept./COMPASS State: ID Sampling Point: SP-09

Investigator(s): C. MacLaren Section, Township, Range: Sec. 21, T4N, R1W

Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): Flat Slope (%): <1%

Subregion (LRR): Snake River Basin (LRR B) Lat: 43.664 Long: -116.451 Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation X Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?**	Yes No **X**
Hydric Soil Present?	Yes	No X		
Wetland Hydrology Present?	Yes	No X		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		=Total Cover	

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 15' diam)			
1. Plantago lanceolata	30	Y	FAC
2. Festuca arundinacea	40	Y	FAC
3. Taraxacum officinale	Tr	N	FACU
4. Cirsium undulatum	Tr	N	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
		= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum: 30 % Cover Biotic Crust:

Dominance Test worksheet:

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		**Multiply by:**	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	70	x 3 =	210
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)
	70		210

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

- Y Dominance Test is >50%
- Y Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Area heavily grazed.

SOIL

Sampling Point: SP-09

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18+	**10YR 4/3**						**Si lm**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ **Stratified Layers (A5)(LRR C)**
- ___ **1 cm Muck (A9)(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9)(L,RR C)
- ___ **2 cm Muck (A10)(LRR C)**
- ___ **Reduced Vertic (F18)**
- Red Parent Material (TF2)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks: Slightly less hummocky than SP-08. No mottles/redox noted
Dry above 3", slightly moist below. Little evidence of hummocks.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)(Nonriverine)
- ___ Sediment Deposits (B2)(Nonriverine)
- ___ Drift Deposits (B3)(Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ **Biotic Crust (B12)**
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ **Water Marks (B1)(Riverine)**
- ___ Sediment Deposits (B2)(Riverine)
- ___ Drift Deposits (B3)(Riverine))
- ___ Drainage Patterns (B10)
- ___ Dry Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ **Saturation visible on Aerial Imagery (C9)**
- ___ Shallow Aquatard (D3)
- **FAC-Neutral Test (D5)**

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes ___ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Upland. Dry, flat pasture

APPENDIX C-Functional Assessment Data Sheets

Montana DEQ – Wetland Rapid Assessment Form (Version 2.0)

Site Number	001.2			Assessment Number	01
Site Name	U.S. 20-26			Date	May 11, 2007
Land Ownership	VARIOUS			Person(s) Assessing Wetland & Affiliations	
HUC 4th/5th Code				COLIN MacLAREN Tina Farrelly	Parametrix, Inc.
HUC 4th/5th Name					
Elevation (ft)					
Location Information					
UTM E					
UTM N					
Datum	NAD27 NAD83 Other:	UTM Zone	11 12 13		
GPS ID					
GPS error (include units)					

General Site Description (Location , Wildlife Observations, Beaver Activity, Outstanding Features, Vegetative Types, observed impacts, etc.):

U.S. 20-26 crossings of Fifteenmile Creek and Mason Creek. Both streams are altered via straightening/channelling, vegetation clearing, and possibly dredging. Both have limited connectivity to adjacent floodplains within the study area.

Photos:

Photo #	Direction Facing	Description of what is in the photo

1.0 Wetland Classification

1.1 Wetland is being assessed to reflect (Circle)	1.2 HGM Classification (Circle one Class or Subclass)				
(Natural Wetland Type *(assess potential)*)	(Riverine)	Depressional	Lacustrine Fringe	Slope	Mineral Soil Flats
Altered Wetland Type *(assess capability)*	Upper Perennial	Closed		Open Spring	Playa Lakes
Completely Altered *(no longer functioning as a wetland, and it is not feasible to survey wetland condition)*	(Lower Perennial)	Open groundwater		Riverine Spring	
**What alterations have been made?* _____	Non-Perennial, Intermittent or Ephemeral	Open surface water		Fen	
				Wet Meadow	

1.3 Cowardin Wetland Classification *(Note: wetlands sites can have more than one system)*

Identify a System, Subsystem, Class, Water Regime, Modifier (if present), and the percent cover of all categories present

System	Subsystem	Class	Water Regimes	Modifiers	Percent
Riverine *(Stream)*	Lower Perennial *(Larger Tributary)*	Rocky Bottom			
		Unconsolidated Bottom	F		100
		Aquatic Bed			
		Emergent Wetland			
		Rocky Shore			
		Unconsolidated Shore			
	Upper Perennial *(Smaller Tributary)*	Rocky Bottom			
		Unconsolidated Bottom			
		Aquatic Bed			
		Rocky Shore			
		Unconsolidated Shore			
	Intermittent	Stream Bed			
Lacustrine *(Lake)*	Limnetic *(Deepwater habitat)*	Rocky Bottom			
		Unconsolidated Bottom			
		Aquatic Bed			
	Littoral *(Between Shore and Deepwater Habitat)*	Rocky Bottom			
		Unconsolidated Bottom			
		Aquatic Bed			
		Emergent Wetland			
		Rocky Shore			
		Unconsolidated Shore			
Palustrine *(Pond or riparian)*		Rocky Bottom			
		Unconsolidated Bottom			
		Aquatic Bed			
		Emergent Wetland			
		Rocky Shore			
		Unconsolidated Shore			
		Moss-Lichen Wetland			
		Scrub-Shrub Wetland			
		Forested Wetland			

Determine the wetland area by locating the boundary where wetland dependent vegetation meets vegetation and features not characteristic of wetlands (See guidebook for more information)

Do not include limnetic subsystems which are deep water habitats that are greater than 2 meters (6.6 feet) or the maximum extent of nonpersistent emergents. If these grow at depths greater than 2 m.

Types of Water Regimes and Modifiers

Water Regimes - Choose the regime that is most common in the area.
A Temporarily Flooded
B Saturated
C Seasonally Flooded
D Seasonally Flooded/Well Drained
E Seasonally Flooded/Saturated
F Semipermanently Flooded
U Unknown

Modifiers
g excavated
h impounded
i diked
j partly drained
k farmed
l artificial dam
m beaver dam
o diverted
p rip rap

Aquatic Bed = plants growing in water
Rocky Bottom/ Shore = cobble or rock along Shore
Unconsolidated Bottom/ Shore = muddy
Emergent = grasses, sedges, rushes, etc.
Scrub-Shrub = Bushes, Vegetation less than 20ft tall
Forested = woody vegetation that is 6 m tall or taller

2.0 Site Characterization

2.1 Are Fish Present? Yes [ ] No [ ] Not Sure [X] **Species** (if known)?

2.2 Amphibian and Aquatic Reptile Species Observed - check and describe life stage below: Eggs, tadpole, adult

Common Name	Life Stage	Common Name	Life Stage	Common Name	Life Stage
Boreal Chorus Frog		Snapping Turtle		Long-toed Salamander	
Bullfrog		Spiny Softshell		Northern Leopard Frog	
Coeur D'Alene Salamander		Tiger Salamander		Pacific Treefrog	
Columbia Spotted Frog		Western Hognose Snake		Painted Turtle	
Common Gartersnake		Terrestrial Gartersnake		Plains Garter Snake	
Great Plains Toad		Western Toad		Plains Spadefoot	
Western Skink		Woodhouse's Toad		Rocky Mtn Tailed Frog	
Smooth Greensnake		Other (describe if unknown):			

2.3 Estimate the Percent of Standing Water

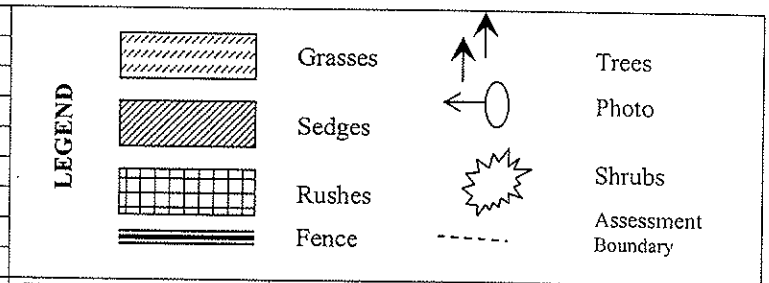
Percentage of standing water body < 50 cm depth	0	(1-25)	26-50	51-75	76-100
Percentage of standing water body 50-200 cm depth	0	1-25	26-50	51-75	(76-100)
Percentage of standing water body >200 cm depth	0	1-25	26-50	51-75	76-100

2.4 Threatened or Endangered Species Observed – check if present and describe in the space provided below

Check	Species	Region Found	Status
	Least Tern	Near Fort Peck Dam & Miles City	Endangered
	Whooping Crane	Northeastern Montana	Endangered
	Bald Eagle	Entire region	Threatened
	Piping Plover	North-central and Eastern portions of the state	Threatened
	Black-Footed Ferret	Northeastern Montana	Endangered
	Canada Lynx	Entire region	Threatened
	Gray Wolf	Entire region	Threatened/Endangered
	Grizzly Bear	Greater Yellowstone, Northern Continental Divide, Cabinet-Yaak, Bitterroot Selway Ecosystems	Threatened
	Bull Trout	Entire Region	Threatened
	Pallid Sturgeon	Fort Peck & Yellowstone River below Powder River mouth	Endangered
	White Sturgeon	Kootenai River	Endangered
	Water Howellia	Northwestern Montana	Threatened
	Ute Ladies' -Tresses	Southwest and Southcentral Montana	THreatened

Please comment on what was observed (scat, tracks, etc.):

2.5 Check amt of surface area of any emergent vegetation				
Type	1-25%	25-50%	50-75%	76-100%
Sedges	✓			
Cattails				
Grasses	✓			
Rushes	✓			
Waterlilies				
Shrubs		✓		
Trees	✓			
Other				



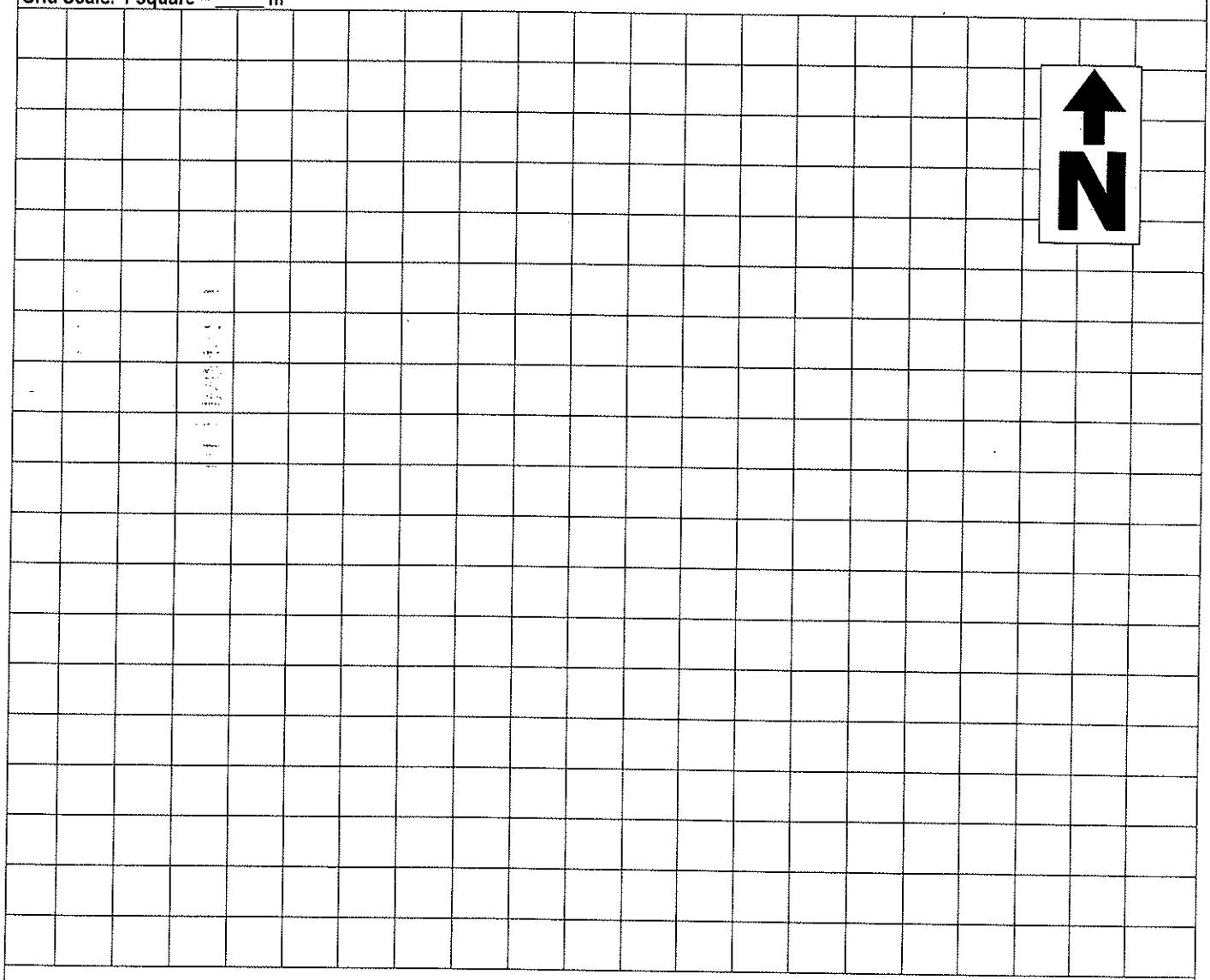
Please describe:

2.6 Site Map for Wetland Assessment Area

(site map can be substituted with a high-resolution aerial photo)

For Riverine sites: include length= 100m, width=as wide as outermost meander. For all other sites: 100 m × 100m or the entire wetland, if smaller. Buffer occupies 100m on either side of the wetland. Specifics for determining assessment area are available in the handbook.

Grid Scale: 1 square = ____ m



- Note all photo locations and directions **What is the overall size of the wetland?** _____×_____

3.0 Hydrogeomorphology Condition

Degree of hydrologic disturbance (All Wetland Types)	Non Occurring/Slight	Moderate	Severe
3.1 Degree of wetland surface or subsurface flow patterns that has been "negatively" altered by human disturbance (e.g., roads, buildings, rip rap, levees, bridges approaches, weirs, dams, etc.) *Consider how structures accommodate safe passage of flows (e.g., lower the rating if headcuts are affecting dam or spillway)	10	4	(0)
3.2 Degree of wetland habitat negatively altered by addition or withdrawal for irrigation, livestock watering, drainage, etc *Consider impacts from any abnormal fluctuating water levels	10	4	(0)
3.3 Amount of wetland habitat negatively altered by dredging or filling	10	(4)	0
3.4 Percent of assessment area and the degree to which the wetland is disturbed by pugging or hummocking from animal hooves **Slight**= Pugging is minimal or shallow/Hummocking has occurred/Vegetation and bank stability is intact or recovering **Moderate**= Pugging is minimal/Hummocks are deep/Wetland is beginning to dry out **Severe**= Hummocks are deep/ Pugging is common/Vegetation is dead or absent	<=25% None Occurring (10) Slight 9 Moderate 6 Severe 5	26-75% Slight 7 Moderate 4 Severe 2	76-100% Slight 5 Moderate 3 Severe 1

Hydrogeomorphic Condition Index

***Riverine Index**

For hydrologic disturbance take the sum of the lowest 2 scores (3.1-3.4) and divide by 20:

Ø + Ø /20 = (Ø) *0.54 0.27

*For Riverine Sites use average of Riverine and Hydrogeomorphology Indexes.

Please provide comments for any impacts that scores < 5: _____

Hydrogeomorphology - Riverine Wetland Addendum (Include only for Riverine Wetlands)

The *actual* score reflects current condition, and the *potential* is the score that reflects the site without human disturbance (usually the maximum score).

3.5 Riverine -Downcutting/Incisement: Note: The presence of active headcuts should nearly always keep the stream reach from being rated sustainable.	**Actual**	**Potential**
Stable Channel	(8)	(8)
Evidence of downcutting that is beginning to stabilize	6	6
Small headcuts; channel is in beginning staged of unraveling.	4	4
Unstable channel that is incised and actively widening; banks failure is common	2	2
Deeply incised resembling a gully	0	0
3.6 Riverine - Percent of Stream banks with active Lateral cutting:	**Actual**	**Potential**
Lateral bank erosion is in balance with the stream and its setting	8	8
There is a minimal amount of human-induced, active lateral bank erosion occurring, primarily limited to outside banks.	(5)	(5)
There is a moderate amount of human-induced active lateral bank erosion on either or both outside or inside banks	3	3
There is extensive human-induced lateral bank erosion occurring on outside and inside banks and straight sections.	0	0
3.7 Riverine - Stream in Balance with Water and Sediment Supply: Note: Rosgen B and naturally occurring D channels are exceptions.	**Actual**	**Potential**
No evidence of excessive sediment removal or deposition, or that the stream is getting wider.	6	6
The stream has widened and/or become shallower due to unstable banks or from de-watering. New point bars are often forming with silt and sand common	(4)	(4)
The stream tends to be very wide and shallow. Mid channel bars are often present. (See guidebook for prairies streams characteristics)	2	2
The stream has poor sediment transport. The channel is often braided with at least 3 active channels	0	0
3.8 Riverine - Floodplain Characterization: *(Rosgen diagrams are available in the handbook)*	**Actual**	**Potential**
Little evidence of floodplain erosion	8	8
Floodplain erosion not extensive	6	(6)
Considerable evidence of floodplain erosion and occasional headcuts	4	4
Erosion and headcuts within the floodplain are extensive. Some human-caused stream bank erosion is occurring	2	2
The floodplain is very limited or does not exist	(0)	0
3.9 Riverine - Streambank with Vegetation (Kind) having a Deep, Binding Rootmass: (see Appendix for stability ratings for most riparian, and other, species)	**Actual**	**Potential**
The streambank vegetative communities are comprised of at least four plant species with deep binding root masses	6	(6)
The streambank vegetative communities are comprised of at least three plant species with deep binding root masses	4	4
The streambank vegetative communities are comprised of at least two plant species with deep binding root masses	(2)	2
The streambank vegetative communities are comprised of one or no plant species with deep binding root masses	0	0
3.10 Riverine - Streambank with Vegetation (Amount) having a Deep, Binding Rootmass: (see Appendix for stability ratings for most riparian, and other, species)	**Actual**	**Potential**
More than 85% of the floodplain has vegetation with a stability rating greater than or equal to 6	6	(6)
75- 85% of the floodplain has vegetation with a stability rating greater than or equal to 6	4	4
65-75% of the floodplain has vegetation with a stability rating greater than or equal to 6	2	2
< 65% of the floodplain has vegetation with a stability rating greater than or equal to 6	(0)	0

Please provide comment for any individual score <6:

If the potential is not at maximum, please explain:

Riverine Index:

Sum the actual scores (3.5-3.10) and divide by the sum of the potential scores (usually the maximum scores):

Actual: 8 + 5 + 4 + 0 + 2+0 =

Potential: 8 + 5 + 4 + 6 + 6+6 =

19 / 35 = *0.54

4.0 Vegetation Condition *Vegetation should only be assessed within the wetland assessment area

4.1 Bare Ground	None present/ Minimal <=5%	Some Present 6-15%	Common Occurrence 16-25%	Very apparent >25%
How much emergent vegetation is impacted by trampling or other human-caused disturbance?	10	8	(4)	0

*For Noxious and Disturbance Caused Undesirable plants, look to the abundance of harmful species.

4.2 Invasive and Disturbance caused undesirable plants (Rank 3 most common and check all other observations)		None present	Some small patches are often present <=5%	Patches are large or commonly present 6-25%	Patches are large and extensive or Wetland is Dominated >25%
1 Reed Canary grass	3 Meadow Foxtail				
___ Smooth brome	___ Tall Fescue				
___ Quack grass	X Timothy	10	7	(5)	2
___ Kentucky bluegrass	___ Sweet Clover				
X Creeping Bent grass	2 Russian Olive				

4.3 Noxious Weeds (Rank 3 most common and check all other observations)		None present	Some small patches are often present <=5%	Patches are large or commonly present 6-25%	Patches are large and extensive or Wetland is Dominated >25%
___ Tamarisk (Salt Cedar)	___ Leafy Spurge				
___ Canada Thistle	___ Purple Loosestrife				
___ White Top Cress	___ Yellowflag Iris	(10)	6	3	0
___ Spotted Knapweed	___ Eurasian Milfoil				

Is woody vegetation present? Yes X No ___ ***Skip the rest of this section if the site does not have the potential for tall shrubs or trees or woody vegetation is not present due to natural causes *(not human impacts or removal).***

4.4 Woody Species Establishment and Regeneration	Actual	Potential
All age classes of desirable woody species present (see Guidebook).	10	(10)
One age class of desirable woody species is clearly absent, all others well represented. Often, it will be the middle age group(s) absent.	6	6
Two age classes (seedlings and saplings) of native shrubs and/or two age classes of native trees are clearly absent, or the stand is comprised of mainly mature species. Other age classes well represented.	4	4
Disturbance induced, (i.e., facultative, facultative upland species such as rose, or snowberry) or non-wetlands dominate. Woody species present consist of decadent/dying individuals	2	2
A few woody species are present (<10% canopy cover), but herbaceous species dominate (at this point, the site potential should be re-evaluated to ensure that it has potential for woody vegetation). OR, the site has at ≥ 5% canopy cover of Russian olive and/or salt cedar.	(0)	0

4.5 Utilization of trees and shrubs:	Actual	Potential
Few to none of the available second year and older stems are browsed	(10)	(10)
Second year and older stems lightly browsed	8	8
Second year and older stems are moderately browsed.	6	6
Second year and older stems are heavily browsed. Many of the shrubs have either a "clubbed" growth form, or they are high-lined or umbrella shaped.	2	2
There is noticeable use (10% or more) of unpalatable and normally unused woody species	0	0

4.6 Percent of physical removal of tree/shrub layer or dead wood caused by concentrated livestock trampling and rubbing, drying out of site due to stream incisement, human-caused wetland drainage or flooding, etc.	<=5%	6-25%	26-50%	51-75%	76-100%
	10	(8)	5	2	0

Please provide comments for any individual scores less than 6:

If Potential is not at maximum, please explain:

Vegetation Condition Index

Sum all scores and divide by the total possible for the assessment area. 60 for sites with woody species (shrubs and tree); 30 for sites with only herbaceous vegetation).

Only Herbaceous (4.1-4.3): ___ + ___ + ___ = ___ /30 3.7/6

For Herbaceous and woody vegetation (4.1- 4.6):

(4 /10 + 5 /10+ 10 /10 + actual/potential + actual/potential + 8 /10) /6 = 0.62 | 0.62

5.0 Water Quality: Is water present? Yes X No ____ *Skip this section if water is not present

5.1 Algae and Duckweed Large patches means 50%	Algae growth is minimal **10**	Algae growth in small patches **8**	Algae growth in large patches **4**	High level of algae growth in continuous mats with odor from rotting vegetation **0**
5.2 Is Wetland Dominated by Cattails? *Dominated means 70% Do not include any open water component.	Yes **4**	No **10**		

5.3 Sediment and Turbidity

5.3a Is there evidence of excessive sediment levels caused by human activities? (e.g. bare ground, row crops, erosion, etc. Do not include trapped sediment due to beaver damming)	No evidence / Slight **10**	Moderate **4**	High **0**	**Average Sediment and Turbidity Score:** 10 + 4 /2= 10 9 8 **7** 6 5 4 3 2 0
5.3b Is the Water Turbid?	No Turbidity/ Slight **10**	Moderate **8**	High **6**	

5.4 Surface oils & foams *Do not consider sheen for vegetation decomposition (Should be evidence of human caused source)	No evidence of surface oils or foams **10**	Evidence of surface oils or foams **3**	The wetland is covered with surface oils or foams **0**
5.5 Toxics- (e.g. Metals from mine tailings, hydrocarbon organic materials, or, Pesticides)	No evidence of toxics **10**	Evidence of toxics, however aquatic life is abundant and diverse **5**	Evidence of toxics. Only tolerant aquatic life are found **0**
5.6 Salinity *Conductivity measurements are not necessary	No evidence of saline seeps Conductivity < 3000 uS/cm **10**	Moderate evidence of saline seeps Conductivity 3000-15000 uS/cm **5**	Significant evidence of saline seeps Conductivity >15000 uS/cm **0**
5.7 Are saline seeps, fallow croplands, oil brines, or severe overgrazing present within 3 miles? Yes No Not Sure			

Water Quality Condition Index: Sum the lowest 2 scores (5.1-5.6) and divide by 20:

7 + 8 = 15 /20 = 0.75

Please comment on any individual scores < 6: _____

6.0 Buffer Condition/ Degree of Stress

Stressors in 100 meter buffer	None present Very few present /Minimal *Small Patches*	Common Occurrence *Large patches within Buffer*	Very apparent and extensive Distribution *Extensive Large Patches throughout entire Buffer*
6.1 Amount of bare ground	10	**Slope** Flat 6 Moderate **4** Steep 3	**Slope** Flat 4 Moderate 2 Steep 1
6.2 Noxious weeds (Use Montana Noxious Weed Pamphlet)	**10**	2	0
6.3 Disturbance- caused undesirable plants	10	**4**	0
Degree of Stress in Buffer	None Occurring/Slight	Moderate	Severe
6.4 Grazing intensity in 100 meter buffer	10	**Slope** Flat **7** Moderate 5 Steep 4	**Slope** Flat 4 Moderate 2 Steep 1
6.5 Recreational Activities (e.g. campground, fishing access point, etc.)	**10**	**Slope** Flat 7 Moderate 5 Steep 4	**Slope** Flat 4 Moderate 2 Steep 1

Slope

Flat= <2 percent grade

Moderate= 2-10 percent Grade

Steep= >10 percent grade

Percent of 100m buffer occupied by stressor	0%	1-25%	26-50%	>50%
6.6 Hayfield	10	8	6	4
6.7 Row Crops	10	**Slope** Flat 7 Moderate 5 Steep 4	**Slope** Flat 4 Moderate 2 Steep 1	**Slope** Flat 2 Moderate 0 Steep 0
6.8 Clear cuts, new growth less than 3 feet tall	10	**Slope** Flat 7 Moderate 5 Steep 4	**Slope** Flat 5 Moderate 3 Steep 2	**Slope** Flat 3 Moderate 1 Steep 0
6.9 Feedlot or concentrated livestock watering	10	3	2	0
6.10 Residential Development	10	9	6	0
6.11Human constructed dams or dikes: *often indicates unnatural wetlands*	Not Present 10	Present 7		
	None Present	**1-5%**	**6-25%**	**>25%**
6.12 Human- induced saline seeps were observed	10	7	4	0
6.13 Industrial or Commercial Activities	10	7	4	0
6.14 Oil and Gas Development	10	7	4	0

6.15 Were any of these stressors observed within 100- 500m from the Wetland? (Please circle)

Row Crops	Oil and Gas Development	Recreational Activities (e.g. campground, fishing access point, etc.)
Human- induced saline seeps	Hayfield	Feedlot/concentrated livestock watering
Industrial or commercial Activities	Roads/ Railroad Grades	Clear cuts (new growth less than 3 feet tall)
Residential Development	Dams or Dikes upstream (Riverine Sites)	

Distance of road from wetland	> 100 meters	51-100 meters	11-50 meters	<=10 meters
6.16 2-track dirt road *Up Slope*	10	6	4	2
6.17 Other 2-track dirt road	10	8	6	4
6.18Dirt and gravel roads, railroad grades *Up Slope*	10	4	2	1
6.19All other dirt and gravel roads, railroad grades	10	6	4	2
6.20Paved Roads *Up Slope*	10	2	1	0
6.21Other Paved Roads	10	4	2	1

Buffer Condition Index

Sum the four lowest scores circled and divide by the total possible for the Assessment area (40). 0 + 1 + 1 + 2 = 4 /40 = 0.1

7.0 Restorability

Circle the appropriate category and sub-category and describe how the wetland is trending (when appropriate)

7.1 How easily can the wetland be restored?	***Category A:*** No observed impacts; Wetland does not need to be restored.	***Category B:*** Some slight impacts that can be fixed or restored with minimal expense and effort (e.g. adding fencing).	**Category C** More significant impacts or disturbances within the buffer area that can be removed (such as a change in land use practices: e.g. crop land changed to pasture, cattle tank or abundant noxious weeds) Restoration would require some expense and effort.	***Category D:*** Serious impacts and stressors are not economically feasible to remove/restore. (e.g., highway or fixed permanent infrastructure)
7.2 Wetland Trend towards natural restoration	***Sub-Category 1:*** Wetland condition is trending upward.	***Sub-Category 2:*** Wetland condition appears to be stable.	***Sub Category 3:*** Wetland condition is trending downward.	***Sub-Category 4:*** Wetland condition trend can not be determined
Comments:				

7.3 Rank Stressors - Choose from the list and rank all starting with 1 (highest)

4	Grazing		Point Source Contamination		Oil/Gas Development
	Mining	3	Residential Development	5	Dredging/Filling
2	Row Crops		Human Recreation		Feedlot/Cattle Watering
1	Road/Railroad(s)		Industrial Development		De-Watering
	Dam/Dike/Weir		Forestry/Clear cutting		Hay Meadow
	Extensive Noxious Weeds				

Summary of Rating

Hydrogeomorphic Condition Index	0.27
Vegetation Condition Index	0.62
Water Quality Condition Index	0.75
Buffer Condition/**Stressor Score**	0.1

Wetland Impact Score Calculation:

If there is surface water multiply the hydrogeomorphic condition index by 0.4; the vegetation condition index by 0.4; the water quality condition index by 0.2.

If there is no surface water multiply the hydrogeomorphic condition index by 0.5; the vegetation condition index by 0.5.

Wetland Impact Score	0.51

Overall Score calculations:

If there is surface water multiply the hydrogeomorphic condition index by 0.3; the vegetation condition index by 0.3; the water condition index by 0.2; and the buffer condition/ Stressor index by 0.2. Sum the indexes to determine the overall condition index score.

If there is no surface water multiply the hydrogeomorphic condition index by 0.4; the vegetation condition index by 0.4; the buffer condition/ Stressor index by 0.2; Sum the indexes to determine the overall condition index score.

Overall Score	0.46*

* This score is not an indication of wetland impairment status. This form is used to record observations only. The form can be submitted to Department of Environmental Quality for professional review to assist in evaluating wetland condition.

Overall condition index >0.9-1.0: **Excellent Condition**	Overall condition index >0.5-0.7: **Fair condition**
Overall condition index >0.7-0.9: **Good Condition**	Overall condition index 0.0-0.5: **Poor Condition**

Montana DEQ – Wetland Rapid Assessment Form (Version 2.0)

Site Number	001.1	Assessment Number	01
Site Name	U.S. 20-26	Date	May 11, 2007
Land Ownership	VARIOUS	Person(s) Assessing Wetland & Affiliations	
HUC 4th/5th Code		COLIN MacLAREN Tina Farrelly — Parametrix, Inc.	
HUC 4th/5th Name			
Elevation (ft)			
Location Information			
UTM E			
UTM N			
Datum	NAD27 (circled) / NAD83 / Other:	UTM Zone	11 (circled) / 12 / 13
GPS ID			
GPS error (include units)			

General Site Description (Location , Wildlife Observations, Beaver Activity, Outstanding Features, Vegetative Types, observed impacts, etc.):

Man-made irrigation canals throughout project area. Canals vary from major (>10' wide) to minor (± 2' wide), unlined and concrete lined.

Photos:

Photo #	Direction Facing	Description of what is in the photo

1.0 Wetland Classification

1.1 Wetland is being assessed to reflect (Circle)	1.2 HGM Classification (Circle one Class or Subclass)				
Natural Wetland Type *(assess potential)*	Riverine	Depressional	Lacustrine Fringe	Slope	Mineral Soil Flats
Altered Wetland Type *(assess capability)* (circled)	Upper Perennial	Closed		Open Spring	Playa Lakes
Completely Altered *(no longer functioning as a wetland, and it is not feasible to survey wetland condition)*	Lower Perennial	Open groundwater		Riverine Spring	
*What alterations have been made? _____	Non-Perennial, Intermittent or Ephemeral (circled)	Open surface water		Fen	
				Wet Meadow	

1.3 Cowardin Wetland Classification *(Note: wetlands sites can have more than one system)*

Identify a System, Subsystem, Class, Water Regime, Modifier (if present), and the percent cover of all categories present

System	Subsystem	Class	Water Regimes	Modifiers	Percent
Riverine *(Stream)*	Lower Perennial *(Larger Tributary)*	Rocky Bottom			
		Unconsolidated Bottom	U	3	100
		Aquatic Bed			
		Emergent Wetland			
		Rocky Shore			
		Unconsolidated Shore			
	Upper Perennial *(Smaller Tributary)*	Rocky Bottom			
		Unconsolidated Bottom			
		Aquatic Bed			
		Rocky Shore			
		Unconsolidated Shore			
	Intermittent	Stream Bed			
Lacustrine *(Lake)*	Limnetic *(Deepwater habitat)*	Rocky Bottom			
		Unconsolidated Bottom			
		Aquatic Bed			
	Littoral *(Between Shore and Deepwater Habitat)*	Rocky Bottom			
		Unconsolidated Bottom			
		Aquatic Bed			
		Emergent Wetland			
		Rocky Shore			
		Unconsolidated Shore			
Palustrine *(Pond or riparian)*		Rocky Bottom			
		Unconsolidated Bottom			
		Aquatic Bed			
		Emergent Wetland			
		Rocky Shore			
		Unconsolidated Shore			
		Moss-Lichen Wetland			
		Scrub-Shrub Wetland			
		Forested Wetland			

Determine the wetland area by locating the boundary where wetland dependent vegetation meets vegetation and features not characteristic of wetlands (See guidebook for more information)

Do not include limnetic subsystems which are deep water habitats that are greater than 2 meters (6.6 feet) or the maximum extent of nonpersistent emergents. If these grow at depths greater than 2 m.

Types of Water Regimes and Modifiers

Water Regimes - Choose the regime that is most common in the area.
A Temporarily Flooded
B Saturated
C Seasonally Flooded
D Seasonally Flooded/Well Drained
E Seasonally Flooded/Saturated
F Semipermanently Flooded
U Unknown

Modifiers
g excavated
h impounded
i diked
j partly drained
k farmed
l artificial dam
m beaver dam
o diverted
p rip rap

Aquatic Bed = plants growing in water
Rocky Bottom/ Shore = cobble or rock along Shore
Unconsolidated Bottom/ Shore = muddy
Emergent = grasses, sedges, rushes, etc.
Scrub-Shrub = Bushes, Vegetation less than 20ft tall
Forested = woody vegetation that is 6 m tall or taller

2.0 Site Characterization

2.1 Are Fish Present? Yes ☐ No ☐ Not Sure ☒ **Species** (if known)?

2.2 Amphibian and Aquatic Reptile Species Observed - check and describe life stage below: Eggs, tadpole, adult

Common Name	Life Stage	Common Name	Life Stage	Common Name	Life Stage
Boreal Chorus Frog		Snapping Turtle		Long-toed Salamander	
Bullfrog		Spiny Softshell		Northern Leopard Frog	
Coeur D'Alene Salamander		Tiger Salamander		Pacific Treefrog	
Columbia Spotted Frog		Western Hognose Snake		Painted Turtle	
Common Gartersnake		Terrestrial Gartersnake		Plains Garter Snake	
Great Plains Toad		Western Toad		Plains Spadefoot	
Western Skink		Woodhouse's Toad		Rocky Mtn Tailed Frog	
Smooth Greensnake		Other (describe if unknown):			

2.3 Estimate the Percent of Standing Water

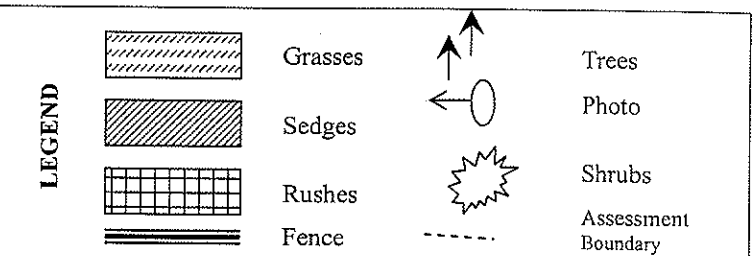
Percentage of standing water body < 50 cm depth	0	1-25	26-50	51-75	76-100
Percentage of standing water body 50-200 cm depth	0	1-25	26-50	51-75	76-100
Percentage of standing water body >200 cm depth	0	1-25	26-50	51-75	76-100

2.4 Threatened or Endangered Species Observed – check if present and describe in the space provided below

Check	Species	Region Found	Status
	Least Tern	Near Fort Peck Dam & Miles City	Endangered
	Whooping Crane	Northeastern Montana	Endangered
	Bald Eagle	Entire region	Threatened
	Piping Plover	North-central and Eastern portions of the state	Threatened
	Black-Footed Ferret	Northeastern Montana	Endangered
	Canada Lynx	Entire region	Threatened
	Gray Wolf	Entire region	Threatened/Endangered
	Grizzly Bear	Greater Yellowstone, Northern Continental Divide, Cabinet-Yaak, Bitterroot Selway Ecosystems	Threatened
	Bull Trout	Entire Region	Threatened
	Pallid Sturgeon	Fort Peck & Yellowstone River below Powder River mouth	Endangered
	White Sturgeon	Kootenai River	Endangered
	Water Howellia	Northwestern Montana	Threatened
	Ute Ladies' -Tresses	Southwest and Southcentral Montana	THreatened

Please comment on what was observed (scat, tracks, etc.): NONE

2.5 Check amt of surface area of any emergent vegetation				
Type	1-25%	25-50%	50-75%	76-100%
Sedges				
Cattails				
Grasses	✓			
Rushes	✓			
Waterlilies				
Shrubs	✓			
Trees	✓			
Other				



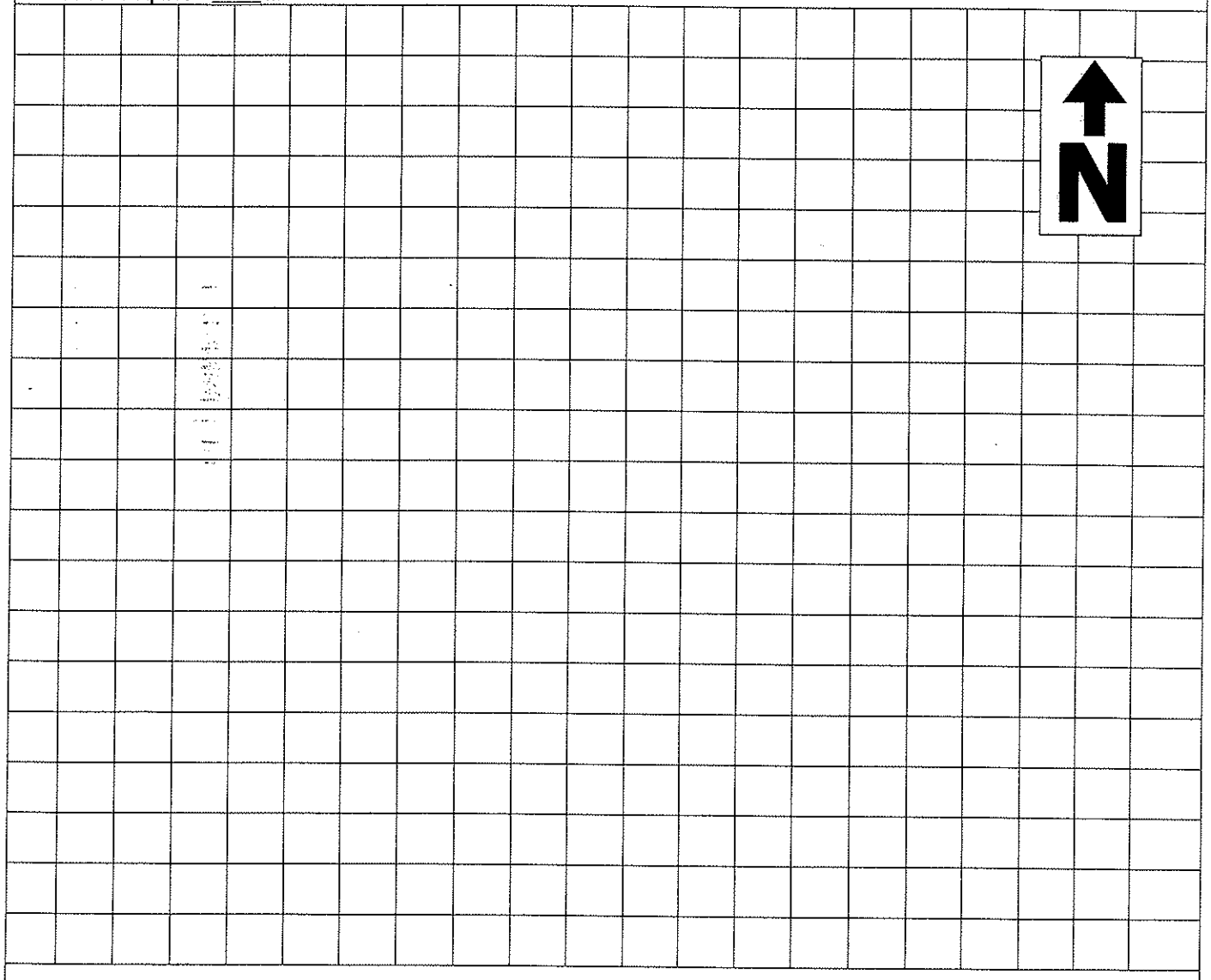
Please describe:

2.6 Site Map for Wetland Assessment Area

(site map can be substituted with a high-resolution aerial photo)

For Riverine sites: include length= 100m, width=as wide as outermost meander. For all other sites: 100 m × 100m or the entire wetland, if smaller. Buffer occupies 100m on either side of the wetland. Specifics for determining assessment area are available in the handbook.

Grid Scale: 1 square = _____ m



- Note all photo locations and directions **What is the overall size of the wetland?** _____×_____

3.0 Hydrogeomorphology Condition

Degree of hydrologic disturbance (All Wetland Types)	Non Occurring/Slight	Moderate	Severe
3.1 Degree of wetland surface or subsurface flow patterns that has been "negatively" altered by human disturbance (e.g., roads, buildings, rip rap, levees, bridges approaches, weirs, dams, etc.) *Consider how structures accommodate safe passage of flows (e.g., lower the rating if headcuts are affecting dam or spillway)	10	4	(0)
3.2 Degree of wetland habitat negatively altered by addition or withdrawal for irrigation, livestock watering, drainage, etc *Consider impacts from any abnormal fluctuating water levels	10	4	(0)
3.3 Amount of wetland habitat negatively altered by dredging or filling	10	4	(0)
3.4 Percent of assessment area and the degree to which the wetland is disturbed by pugging or hummocking from animal hooves **Slight=** Pugging is minimal or shallow/Hummocking has occurred/Vegetation and bank stability is intact or recovering **Moderate=** Pugging is minimal/Hummocks are deep/Wetland is beginning to dry out **Severe=** Hummocks are deep/ Pugging is common/Vegetation is dead or absent	<=25% None Occurring (10) Slight 9 Moderate 6 Severe 5	26-75% Slight 7 Moderate 4 Severe 2	76-100% Slight 5 Moderate 3 Severe 1

Hydrogeomorphic Condition Index

***Riverine Index**

For hydrologic disturbance take the sum of the lowest 2 scores (3.1-3.4) and divide by 20:

0 + 0 /20 = (0) *1.00 0.50

*For Riverine Sites use average of Riverine and Hydrogeomorphology Indexes.

Please provide comments for any impacts that scores < 5: Man-made irrigation canals

Hydrogeomorphology - Riverine Wetland Addendum (Include only for Riverine Wetlands)

The *actual* score reflects current condition, and the *potential* is the score that reflects the site without human disturbance (usually the maximum score).

3.5 Riverine -Downcutting/Incisement: Note: The presence of active headcuts should nearly always keep the stream reach from being rated sustainable.	**Actual**	**Potential**
Stable Channel	(8)	(8)
Evidence of downcutting that is beginning to stabilize	6	6
Small headcuts; channel is in beginning staged of unraveling.	4	4
Unstable channel that is incised and actively widening; banks failure is common	2	2
Deeply incised resembling a gully	0	0
3.6 Riverine - Percent of Stream banks with active Lateral cutting:	**Actual**	**Potential**
Lateral bank erosion is in balance with the stream and its setting	(8)	(8)
There is a minimal amount of human-induced, active lateral bank erosion occurring, primarily limited to outside banks.	5	5
There is a moderate amount of human-induced active lateral bank erosion on either or both outside or inside banks	3	3
There is extensive human-induced lateral bank erosion occurring on outside and inside banks and straight sections.	0	0
3.7 Riverine - Stream in Balance with Water and Sediment Supply: Note: Rosgen B and naturally occurring D channels are exceptions.	**Actual**	**Potential**
No evidence of excessive sediment removal or deposition, or that the stream is getting wider.	(6)	(6)
The stream has widened and/or become shallower due to unstable banks or from de-watering. New point bars are often forming with silt and sand common	4	4
The stream tends to be very wide and shallow. Mid channel bars are often present. (See guidebook for prairies streams characteristics)	2	2
The stream has poor sediment transport. The channel is often braided with at least 3 active channels	0	0
3.8 Riverine - Floodplain Characterization: *(Rosgen diagrams are available in the handbook)*	**Actual**	**Potential**
Little evidence of floodplain erosion	8	8
Floodplain erosion not extensive	6	6
Considerable evidence of floodplain erosion and occasional headcuts	4	4
Erosion and headcuts within the floodplain are extensive. Some human-caused stream bank erosion is occurring	2	2
The floodplain is very limited or does not exist	(0)	(0)
3.9 Riverine - Streambank with Vegetation (Kind) having a Deep, Binding Rootmass: (see Appendix for stability ratings for most riparian, and other, species)	**Actual**	**Potential**
The streambank vegetative communities are comprised of at least four plant species with deep binding root masses	6	6
The streambank vegetative communities are comprised of at least three plant species with deep binding root masses	4	4
The streambank vegetative communities are comprised of at least two plant species with deep binding root masses	2	2
The streambank vegetative communities are comprised of one or no plant species with deep binding root masses	(0)	(0)
3.10 Riverine - Streambank with Vegetation (Amount) having a Deep, Binding Rootmass: (see Appendix for stability ratings for most riparian, and other, species)	**Actual**	**Potential**
More than 85% of the floodplain has vegetation with a stability rating greater than or equal to 6	6	6
75- 85% of the floodplain has vegetation with a stability rating greater than or equal to 6	4	4
65-75% of the floodplain has vegetation with a stability rating greater than or equal to 6	2	2
< 65% of the floodplain has vegetation with a stability rating greater than or equal to 6	(0)	(0)
Please provide comment for any individual score <6:		
If the potential is not at maximum, please explain:		

Riverine Index:

Sum the actual scores (3.5-3.10) and divide by the sum of the potential scores (usually the maximum scores):

Actual: (8) + 8 + (6) + (0) + (0) = 22

Potential: 6 + 5 + 6 + 0 + 0 = 22

$\frac{22}{22} * 100$

4.0 Vegetation Condition *Vegetation should only be assessed within the wetland assessment area

4.1 Bare Ground	None present/ Minimal <=5%	Some Present 6-15%	Common Occurrence 16-25%	Very apparent >25%
How much emergent vegetation is impacted by trampling or other human-caused disturbance?	10	8	4	0

*For Noxious and Disturbance Caused Undesirable plants, look to the abundance of harmful species.

4.2 Invasive and Disturbance caused undesirable plants (Rank 3 most common and check all other observations)		None present	Some small patches are often present <=5%	Patches are large or commonly present 6-25%	Patches are large and extensive or Wetland is Dominated >25%
1 Reed Canary grass	___Meadow Foxtail	10	7	5	2
2 Smooth brome	3 Tall Fescue				
___Quack grass	___Timothy				
___Kentucky bluegrass	___Sweet Clover				
___Creeping Bent grass	X Russian Olive				

4.3 Noxious Weeds (Rank 3 most common and check all other observations)		None present	Some small patches are often present <=5%	Patches are large or commonly present 6-25%	Patches are large and extensive or Wetland is Dominated >25%
___Tamarisk (Salt Cedar)	___Leafy Spurge	10	6	3	0
___Canada Thistle	___Purple Loosestrife				
___White Top Cress	___Yellowflag Iris				
___Spotted Knapweed	___Eurasian Milfoil				

Is woody vegetation present? Yes____ No X *Skip the rest of this section if the site does not have the potential for tall shrubs or trees or woody vegetation is not present due to natural causes *(not human impacts or removal).*

4.4 Woody Species Establishment and Regeneration	Actual	Potential
All age classes of desirable woody species present (see Guidebook).	10	10
One age class of desirable woody species is clearly absent, all others well represented. Often, it will be the middle age group(s) absent.	6	6
Two age classes (seedlings and saplings) of native shrubs and/or two age classes of native trees are clearly absent, or the stand is comprised of mainly mature species. Other age classes well represented.	4	4
Disturbance induced, (i.e., facultative, facultative upland species such as rose, or snowberry) or non-wetlands dominate. Woody species present consist of decadent/dying individuals	2	2
A few woody species are present (<10% canopy cover), but herbaceous species dominate (at this point, the site potential should be re-evaluated to ensure that it has potential for woody vegetation). OR, the site has at ≥ 5% canopy cover of Russian olive and/or salt cedar.	0	0
4.5 Utilization of trees and shrubs:	**Actual**	**Potential**
Few to none of the available second year and older stems are browsed	10	10
Second year and older stems lightly browsed	8	8
Second year and older stems are moderately browsed.	6	6
Second year and older stems are heavily browsed. Many of the shrubs have either a "clubbed" growth form, or they are high-lined or umbrella shaped.	2	2
There is noticeable use (10% or more) of unpalatable and normally unused woody species	0	0

4.6 Percent of physical removal of tree/shrub layer or dead wood caused by concentrated livestock trampling and rubbing, drying out of site due to stream incisement, human-caused wetland drainage or flooding, etc.	<=5%	6-25%	26-50%	51-75%	76-100%
	10	8	5	2	0

Please provide comments for any individual scores less than 6:

If Potential is not at maximum, please explain:

Vegetation Condition Index

Sum all scores and divide by the total possible for the assessment area. 60 for sites with woody species (shrubs and tree); 30 for sites with only herbaceous vegetation).

Only Herbaceous (4.1-4.3): 0 + 2 + 10 = 12 /30

For Herbaceous and woody vegetation (4.1- 4.6):

(____/10 +____/10+____/10 + actual/potential + actual/potential +____/10) /6 = _____ 0.4

5.0 Water Quality: Is water present? Yes____ No____ *Skip this section if water is not present

5.1 Algae and Duckweed Large patches means 50%	Algae growth is minimal **10**	Algae growth in small patches **8**	Algae growth in large patches **4**	High level of algae growth in continuous mats with odor from rotting vegetation **0**
5.2 Is Wetland Dominated by Cattails? *Dominated means 70% Do not include any open water component.	Yes **4**	No **10**		

5.3 Sediment and Turbidity

5.3a Is there evidence of excessive sediment levels caused by human activities? (e.g. bare ground, row crops, erosion, etc. Do not include trapped sediment due to beaver damming)	No evidence / Slight *10*	Moderate *4*	High *0*
5.3b Is the Water Turbid?	No Turbidity/ Slight *10*	Moderate *8*	High *6*

Average Sediment and Turbidity Score: 4 + 10 /2=

10 9 8 (7) 6 5 4 3 2 0

5.4 Surface oils & foams *Do not consider sheen for vegetation decomposition (Should be evidence of human caused source)	No evidence of surface oils or foams **10**	Evidence of surface oils or foams **3**	The wetland is covered with surface oils or foams **0**
5.5 Toxics- (e.g. Metals from mine tailings, hydrocarbon organic materials, or, Pesticides)	No evidence of toxics **10**	Evidence of toxics, however aquatic life is abundant and diverse **5**	Evidence of toxics. Only tolerant aquatic life are found **0**
5.6 Salinity *Conductivity measurements are not necessary	No evidence of saline seeps Conductivity < 3000 uS/cm **10**	Moderate evidence of saline seeps Conductivity 3000-15000 uS/cm **5**	Significant evidence of saline seeps Conductivity >15000 uS/cm **0**
5.7 Are saline seeps, fallow croplands, oil brines, or severe overgrazing present within 3 miles? Yes No (Not Sure)			

Water Quality Condition Index: Sum the lowest 2 scores (5.1-5.6) and divide by 20:

7 + 8 = 15 /20 = 0.75

Please comment on any individual scores < 6: _____

6.0 Buffer Condition/ Degree of Stress

Stressors in 100 meter buffer	None present Very few present /Minimal *Small Patches*	Common Occurrence *Large patches within Buffer*	Very apparent and extensive Distribution *Extensive Large Patches throughout entire Buffer*
6.1 Amount of bare ground	10	**Slope** Flat 6 Moderate 4 Steep 3	**Slope** Flat (4) Moderate 2 Steep 1
6.2 Noxious weeds (Use Montana Noxious Weed Pamphlet)	(10)	2	0
6.3 Disturbance- caused undesirable plants	10	(4)	0
Degree of Stress in Buffer	None Occurring/Slight	Moderate	Severe
6.4 Grazing intensity in 100 meter buffer	10	**Slope** Flat (7) Moderate 5 Steep 4	**Slope** Flat 4 Moderate 2 Steep 1
6.5 Recreational Activities (e.g. campground, fishing access point, etc.)	(10)	**Slope** Flat 7 Moderate 5 Steep 4	**Slope** Flat 4 Moderate 2 Steep 1

Slope

Flat= <2 percent grade

Moderate= 2-10 percent Grade

Steep= >10 percent grade

Percent of 100m buffer occupied by stressor	0%	1-25%	26-50%	>50%
6.6 Hayfield	10	8	6	4
6.7 Row Crops	10	**Slope** Flat 7 Moderate 5 Steep 4	**Slope** Flat 4 Moderate 2 Steep 1	**Slope** Flat 2 Moderate 0 Steep 0
6.8 Clear cuts, new growth less than 3 feet tall	10	**Slope** Flat 7 Moderate 5 Steep 4	**Slope** Flat 5 Moderate 3 Steep 2	**Slope** Flat 3 Moderate 1 Steep 0
6.9 Feedlot or concentrated livestock watering	10	3	2	0
6.10 Residential Development	10	9	6	0
6.11Human constructed dams or dikes: *often indicates unnatural wetlands*	Not Present 10	Present 7		
	None Present	**1-5%**	**6-25%**	**>25%**
6.12 Human- induced saline seeps were observed	10	7	4	0
6.13 Industrial or Commercial Activities	10	7	4	0
6.14 Oil and Gas Development	10	7	4	0

6.15 Were any of these stressors observed within 100- 500m from the Wetland? (Please circle)

Row Crops	Oil and Gas Development	Recreational Activities (e.g. campground, fishing access point, etc.)
Human- induced saline seeps	Hayfield	Feedlot/concentrated livestock watering
Industrial or commercial Activities	Roads/ Railroad Grades	Clear cuts (new growth less than 3 feet tall)
Residential Development	Dams or Dikes upstream (Riverine Sites)	

Distance of road from wetland	> 100 meters	51-100 meters	11-50 meters	<=10 meters
6.16 2-track dirt road *Up Slope*	10	6	4	2
6.17 Other 2-track dirt road	10	8	6	4
6.18Dirt and gravel roads, railroad grades *Up Slope*	10	4	2	1
6.19All other dirt and gravel roads, railroad grades	10	6	4	2
6.20Paved Roads *Up Slope*	10	2	1	0
6.21Other Paved Roads	10	4	2	1

Buffer Condition Index

Sum the four lowest scores circled and divide by the total possible for the Assessment area (40). 0 + 1 + 1 + 2 = 4 /40 = 0.10

7.0 Restorability Circle the appropriate category and sub-category and describe how the wetland is trending (when appropriate)

7.1 How easily can the wetland be restored?	***Category A:*** No observed impacts; Wetland does not need to be restored.	***Category B:*** Some slight impacts that can be fixed or restored with minimal expense and effort (e.g. adding fencing).	**Category C** More significant impacts or disturbances within the buffer area that can be removed. (such as a change in land use practices: e.g. crop land changed to pasture, cattle tank or abundant noxious weeds) Restoration would require some expense and effort.	***Category D:*** Serious impacts and stressors are not economically feasible to remove/restore. (e.g., highway or fixed permanent infrastructure)
7.2 Wetland Trend towards natural restoration	***Sub-Category 1:*** Wetland condition is trending upward.	***Sub-Category 2:*** Wetland condition appears to be stable.	***Sub Category 3:*** Wetland condition is trending downward.	***Sub-Category 4:*** Wetland condition trend can not be determined
Comments:				

7.3 Rank Stressors - Choose from the list and rank all starting with 1 (highest)

	Grazing		Point Source Contamination		Oil/Gas Development
	Mining	3	Residential Development		Dredging/Filling
2	Row Crops		Human Recreation		Feedlot/Cattle Watering
1	Road/Railroad(s)		Industrial Development		De-Watering
	Dam/Dike/Weir		Forestry/Clear cutting	4	Hay Meadow
	Extensive Noxious Weeds				

Summary of Rating

Hydrogeomorphic Condition Index	0.5
Vegetation Condition Index	0.4
Water Quality Condition Index	0.75
Buffer Condition/**Stressor Score**	0.1

Wetland Impact Score Calculation:

If there is surface water multiply the hydrogeomorphic condition index by 0.4; the vegetation condition index by 0.4; the water quality condition index by 0.2.

If there is no surface water multiply the hydrogeomorphic condition index by 0.5; the vegetation condition index by 0.5.

Wetland Impact Score	0.51

Overall Score calculations:

If there is surface water multiply the hydrogeomorphic condition index by 0.3; the vegetation condition index by 0.3; the water condition index by 0.2; and the buffer condition/ Stressor index by 0.2. Sum the indexes to determine the overall condition index score.

If there is no surface water multiply the hydrogeomorphic condition index by 0.4; the vegetation condition index by 0.4; the buffer condition/ Stressor index by 0.2; Sum the indexes to determine the overall condition index score.

Overall Score	0.44*

* This score is not an indication of wetland impairment status. This form is used to record observations only. The form can be submitted to Department of Environmental Quality for professional review to assist in evaluating wetland condition.

Overall condition index >0.9-1.0: **Excellent Condition**	Overall condition index >0.5-0.7: **Fair condition**
Overall condition index >0.7-0.9: **Good Condition**	Overall condition index 0.0-0.5: **Poor Condition**

Montana DEQ – Wetland Rapid Assessment Form (Version 2.0)

Site Number	001.3			Assessment Number	01
Site Name	U.S. 20-26			Date	May 11, 2007
Land Ownership	VARIOUS			Person(s) Assessing Wetland & Affiliations	
HUC 4th/5th Code				COLIN MacLAREN Tina Farrelly	Parametrix, Inc.
HUC 4th/5th Name					
Elevation (ft)					
Location Information					
UTM E					
UTM N					
Datum	NAD27 NAD83 Other:	UTM Zone	11 12 13		
GPS ID					
GPS error (include units)					

General Site Description (Location , Wildlife Observations, Beaver Activity, Outstanding Features, Vegetative Types, observed impacts, etc.):

Emergent wetland located on either side of unnamed irrigation canal, west of Phyllis Canal, south of 20-26.

Site is a low-lying pasture used for grazing. Surface and possibly subsurface waters from unnamed canal appear to contribute hydrology to surrounding field. Wetlands appear confined to the area immediately adjacent to canal, extending approximately 25' on either side.

Photos:

Photo #	Direction Facing	Description of what is in the photo

1.0 Wetland Classification

1.1 Wetland is being assessed to reflect (Circle)	1.2 HGM Classification (Circle one Class or Subclass)				
Natural Wetland Type *(assess potential)* (Altered Wetland Type *(assess capability)*) Completely Altered *(no longer functioning as a wetland, and it is not feasible to survey wetland condition)* **What alterations have been made?* _____	Riverine Upper Perennial Lower Perennial Non-Perennial, Intermittent or Ephemeral	(Depressional) Closed Open groundwater (Open surface water)	Lacustrine Fringe	Slope Open Spring Riverine Spring Fen Wet Meadow	Mineral Soil Flats Playa Lakes

1.3 Cowardin Wetland Classification *(Note: wetlands sites can have more than one system)*

Identify a System, Subsystem, Class, Water Regime, Modifier (if present), and the percent cover of all categories present

System	Subsystem	Class	Water Regimes	Modifiers	Percent
Riverine *(Stream)*	Lower Perennial *(Larger Tributary)*	Rocky Bottom			
		Unconsolidated Bottom			
		Aquatic Bed			
		Emergent Wetland			
		Rocky Shore			
		Unconsolidated Shore			
	Upper Perennial *(Smaller Tributary)*	Rocky Bottom			
		Unconsolidated Bottom			
		Aquatic Bed			
		Rocky Shore			
		Unconsolidated Shore			
	Intermittent	Stream Bed			
Lacustrine *(Lake)*	Limnetic *(Deepwater habitat)*	Rocky Bottom			
		Unconsolidated Bottom			
		Aquatic Bed			
	Littoral *(Between Shore and Deepwater Habitat)*	Rocky Bottom			
		Unconsolidated Bottom			
		Aquatic Bed			
		Emergent Wetland			
		Rocky Shore			
		Unconsolidated Shore			
Palustrine *(Pond or riparian)*		Rocky Bottom			
		Unconsolidated Bottom			
		Aquatic Bed			
		Emergent Wetland	E	K	100
		Rocky Shore			
		Unconsolidated Shore			
		Moss-Lichen Wetland			
		Scrub-Shrub Wetland			
		Forested Wetland			

Determine the wetland area by locating the boundary where wetland dependent vegetation meets vegetation and features not characteristic of wetlands (See guidebook for more information)

Do not include limnetic subsystems which are deep water habitats that are greater than 2 meters (6.6 feet) or the maximum extent of nonpersistent emergents. If these grow at depths greater than 2 m.

Types of Water Regimes and Modifiers

Water Regimes - Choose the regime that is most common in the area.
A Temporarily Flooded
B Saturated
C Seasonally Flooded
D Seasonally Flooded/Well Drained
E Seasonally Flooded/Saturated
F Semipermanently Flooded
U Unknown

Modifiers
g excavated
h impounded
i diked
j partly drained
k farmed
l artificial dam
m beaver dam
o diverted
p rip rap

Aquatic Bed = plants growing in water
Rocky Bottom/ Shore = cobble or rock along Shore
Unconsolidated Bottom/ Shore = muddy
Emergent = grasses, sedges, rushes, etc.
Scrub-Shrub = Bushes, Vegetation less than 20ft tall
Forested = woody vegetation that is 6 m tall or taller

2.0 Site Characterization

2.1 Are Fish Present? Yes [ ] No [X] Not Sure [ ] **Species** (if known)?

2.2 Amphibian and Aquatic Reptile Species Observed - check and describe life stage below: Eggs, tadpole, adult

Common Name	Life Stage	Common Name	Life Stage	Common Name	Life Stage
Boreal Chorus Frog		Snapping Turtle		Long-toed Salamander	
Bullfrog		Spiny Softshell		Northern Leopard Frog	
Coeur D'Alene Salamander		Tiger Salamander		Pacific Treefrog	
Columbia Spotted Frog		Western Hognose Snake		Painted Turtle	
Common Gartersnake		Terrestrial Gartersnake		Plains Garter Snake	
Great Plains Toad		Western Toad		Plains Spadefoot	
Western Skink		Woodhouse's Toad		Rocky Mtn Tailed Frog	
Smooth Greensnake		Other (describe if unknown):			

2.3 Estimate the Percent of Standing Water

Percentage of standing water body < 50 cm depth	0	1-25	26-50	51-75	76-100
Percentage of standing water body 50-200 cm depth	0	1-25	26-50	51-75	76-100
Percentage of standing water body >200 cm depth	0	1-25	26-50	51-75	76-100

2.4 Threatened or Endangered Species Observed – check if present and describe in the space provided below

Check	Species	Region Found	Status
	Least Tern	Near Fort Peck Dam & Miles City	Endangered
	Whooping Crane	Northeastern Montana	Endangered
	Bald Eagle	Entire region	Threatened
	Piping Plover	North-central and Eastern portions of the state	Threatened
	Black-Footed Ferret	Northeastern Montana	Endangered
	Canada Lynx	Entire region	Threatened
	Gray Wolf	Entire region	Threatened/Endangered
	Grizzly Bear	Greater Yellowstone, Northern Continental Divide, Cabinet-Yaak, Bitterroot Selway Ecosystems	Threatened
	Bull Trout	Entire Region	Threatened
	Pallid Sturgeon	Fort Peck & Yellowstone River below Powder River mouth	Endangered
	White Sturgeon	Kootenai River	Endangered
	Water Howellia	Northwestern Montana	Threatened
	Ute Ladies' -Tresses	Southwest and Southcentral Montana	THreatened

Please comment on what was observed (scat, tracks, etc.):

2.5 Check amt of surface area of any emergent vegetation				
Type	1-25%	25-50%	50-75%	76-100%
Sedges				
Cattails				
Grasses				✓
Rushes	✓			
Waterlilies				
Shrubs				
Trees				
Other				

LEGEND

Grasses

Sedges

Rushes

Fence

Trees

Photo

Shrubs

Assessment Boundary

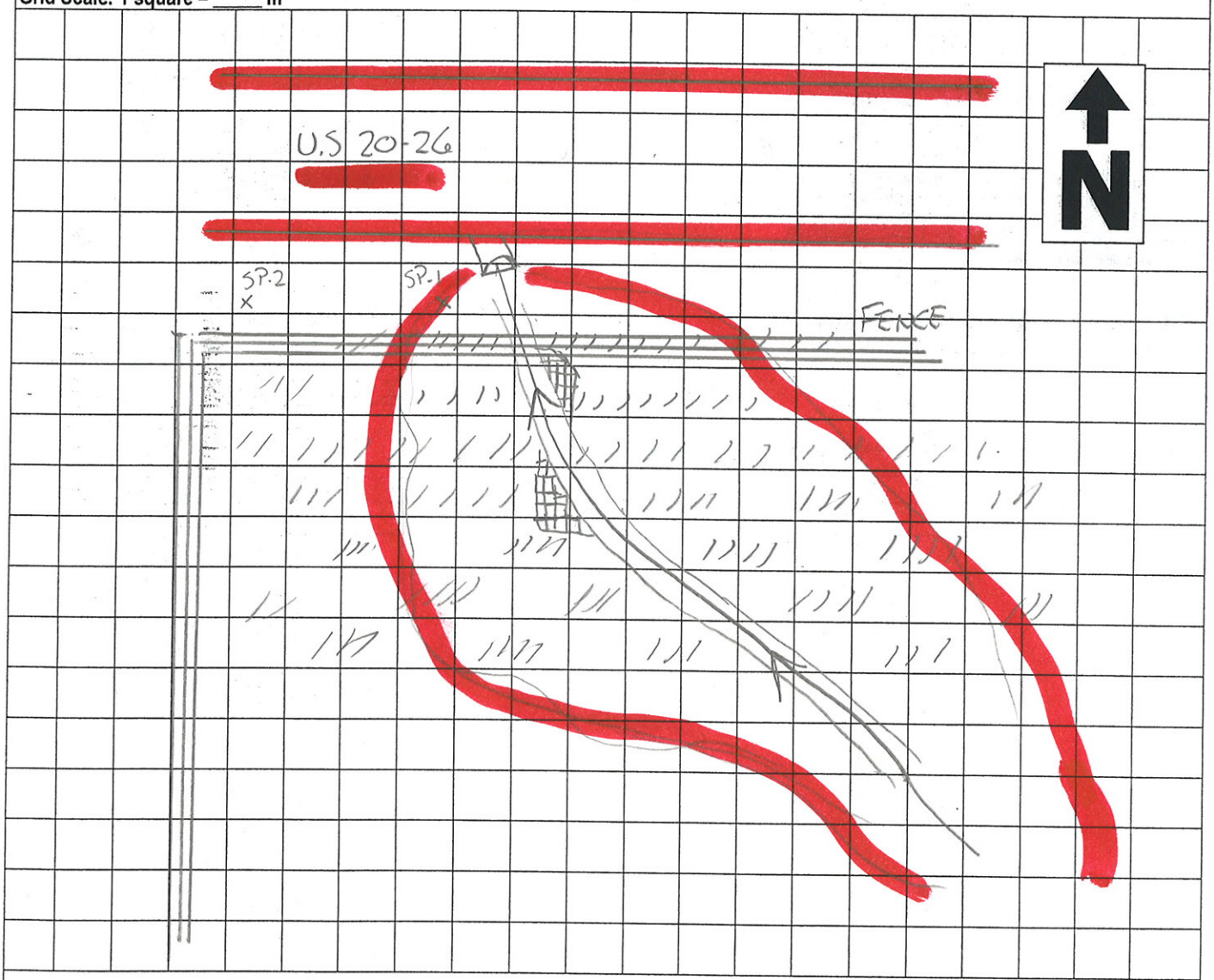
Please describe:

2.6 Site Map for Wetland Assessment Area

(site map can be substituted with a high-resolution aerial photo)

For Riverine sites: include length= 100m, width=as wide as outermost meander. For all other sites: 100 m × 100m or the entire wetland, if smaller. Buffer occupies 100m on either side of the wetland. Specifics for determining assessment area are available in the handbook.

Grid Scale: 1 square = _____ m



- Note all photo locations and directions **What is the overall size of the wetland?** _____×_____

3.0 Hydrogeomorphology Condition

Degree of hydrologic disturbance (All Wetland Types)	Non Occurring/Slight	Moderate	Severe
3.1 Degree of wetland surface or subsurface flow patterns that has been "negatively" altered by human disturbance (e.g., roads, buildings, rip rap, levees, bridges approaches, weirs, dams, etc.) *Consider how structures accommodate safe passage of flows (e.g., lower the rating if headcuts are affecting dam or spillway)	10	4	(0)
3.2 Degree of wetland habitat negatively altered by addition or withdrawal for irrigation, livestock watering, drainage, etc *Consider impacts from any abnormal fluctuating water levels	10	(4)	0
3.3 Amount of wetland habitat negatively altered by dredging or filling	10	(4)	0
3.4 Percent of assessment area and the degree to which the wetland is disturbed by pugging or hummocking from animal hooves **Slight=** Pugging is minimal or shallow/Hummocking has occurred/Vegetation and bank stability is intact or recovering **Moderate=** Pugging is minimal/Hummocks are deep/Wetland is beginning to dry out **Severe=** Hummocks are deep/ Pugging is common/Vegetation is dead or absent	<=25% None Occurring 10 Slight 9 Moderate 6 Severe 5	26-75% Slight (7) Moderate 4 Severe 2	76-100% Slight 5 Moderate 3 Severe 1

Hydrogeomorphic Condition Index

***Riverine Index**

For hydrologic disturbance take the sum of the lowest 2 scores (3.1-3.4) and divide by 20:

0 + 4 /20 = (0.2 | * ✓ | 0.2

*For Riverine Sites use average of Riverine and Hydrogeomorphology Indexes.

Please provide comments for any impacts that scores < 5: _____

Hydrogeomorphology - Riverine Wetland Addendum (Include only for Riverine Wetlands)

The *actual* score reflects current condition, and the *potential* is the score that reflects the site without human disturbance (usually the maximum score).

3.5 Riverine -Downcutting/Incisement: Note: The presence of active headcuts should nearly always keep the stream reach from being rated sustainable.	**Actual**	**Potential**
Stable Channel	8	8
Evidence of downcutting that is beginning to stabilize	6	6
Small headcuts; channel is in beginning staged of unraveling.	4	4
Unstable channel that is incised and actively widening; banks failure is common	2	2
Deeply incised resembling a gully	0	0
3.6 Riverine - Percent of Stream banks with active Lateral cutting:	**Actual**	**Potential**
Lateral bank erosion is in balance with the stream and its setting	8	8
There is a minimal amount of human-induced, active lateral bank erosion occurring, primarily limited to outside banks.	5	5
There is a moderate amount of human-induced active lateral bank erosion on either or both outside or inside banks	3	3
There is extensive human-induced lateral bank erosion occurring on outside and inside banks and straight sections.	0	0
3.7 Riverine - Stream in Balance with Water and Sediment Supply: Note: Rosgen B and naturally occurring D channels are exceptions.	**Actual**	**Potential**
No evidence of excessive sediment removal or deposition, or that the stream is getting wider.	6	6
The stream has widened and/or become shallower due to unstable banks or from de-watering. New point bars are often forming with silt and sand common	4	4
The stream tends to be very wide and shallow. Mid channel bars are often present. (See guidebook for prairies streams characteristics)	2	2
The stream has poor sediment transport. The channel is often braided with at least 3 active channels	0	0
3.8 Riverine - Floodplain Characterization: *(Rosgen diagrams are available in the handbook)*	**Actual**	**Potential**
Little evidence of floodplain erosion	8	8
Floodplain erosion not extensive	6	6
Considerable evidence of floodplain erosion and occasional headcuts	4	4
Erosion and headcuts within the floodplain are extensive. Some human-caused stream bank erosion is occurring	2	2
The floodplain is very limited or does not exist	0	0
3.9 Riverine - Streambank with Vegetation (Kind) having a Deep, Binding Rootmass: (see Appendix for stability ratings for most riparian, and other, species)	**Actual**	**Potential**
The streambank vegetative communities are comprised of at least four plant species with deep binding root masses	6	6
The streambank vegetative communities are comprised of at least three plant species with deep binding root masses	4	4
The streambank vegetative communities are comprised of at least two plant species with deep binding root masses	2	2
The streambank vegetative communities are comprised of one or no plant species with deep binding root masses	0	0
3.10 Riverine - Streambank with Vegetation (Amount) having a Deep, Binding Rootmass: (see Appendix for stability ratings for most riparian, and other, species)	**Actual**	**Potential**
More than 85% of the floodplain has vegetation with a stability rating greater than or equal to 6	6	6
75- 85% of the floodplain has vegetation with a stability rating greater than or equal to 6	4	4
65-75% of the floodplain has vegetation with a stability rating greater than or equal to 6	2	2
< 65% of the floodplain has vegetation with a stability rating greater than or equal to 6	0	0

Please provide comment for any individual score <6:

If the potential is not at maximum, please explain:

Riverine Index:

Sum the actual scores (3.5-3.10) and divide by the sum of the potential scores (usually the maximum scores):

Actual: _____+_____+_____+_____+_____ =

Potential:_____ +_____+_____+_____ +_____=

[ ] / [ ] = [* N/A]

4.0 Vegetation Condition *Vegetation should only be assessed within the wetland assessment area

4.1 Bare Ground	None present/ Minimal <=5%	Some Present 6-15%	Common Occurrence 16-25%	Very apparent >25%
How much emergent vegetation is impacted by trampling or other human-caused disturbance?	10	8	(4)	0

*For Noxious and Disturbance Caused Undesirable plants, look to the abundance of harmful species.

4.2 Invasive and Disturbance caused undesirable plants (Rank 3 most common and check all other observations)	None present	Some small patches are often present <=5%	Patches are large or commonly present 6-25%	Patches are large and extensive or Wetland is Dominated >25%
1 Reed Canary grass; 3 Meadow Foxtail; ___ Smooth brome; ___ Tall Fescue; ___ Quack grass; ___ Timothy; ___ Kentucky bluegrass; ___ Sweet Clover; 2 Creeping Bent grass; ___ Russian Olive	10	7	(5)	2

4.3 Noxious Weeds (Rank 3 most common and check all other observations)	None present	Some small patches are often present <=5%	Patches are large or commonly present 6-25%	Patches are large and extensive or Wetland is Dominated >25%
___ Tamarisk (Salt Cedar); ___ Leafy Spurge; ___ Canada Thistle; ___ Purple Loosestrife; ___ White Top Cress; ___ Yellowflag Iris; ___ Spotted Knapweed; ___ Eurasian Milfoil	(10)	6	3	0

Is woody vegetation present? Yes____ No_X_ *Skip the rest of this section if the site does not have the potential for tall shrubs or trees or woody vegetation is not present due to natural causes *(not human impacts or removal).*

4.4 Woody Species Establishment and Regeneration	Actual	Potential
All age classes of desirable woody species present (see Guidebook).	10	10
One age class of desirable woody species is clearly absent, all others well represented. Often, it will be the middle age group(s) absent.	6	6
Two age classes (seedlings and saplings) of native shrubs and/or two age classes of native trees are clearly absent, or the stand is comprised of mainly mature species. Other age classes well represented.	4	4
Disturbance induced, (i.e., facultative, facultative upland species such as rose, or snowberry) or non-wetlands dominate. Woody species present consist of decadent/dying individuals	2	2
A few woody species are present (<10% canopy cover), but herbaceous species dominate (at this point, the site potential should be re-evaluated to ensure that it has potential for woody vegetation). OR, the site has at ≥ 5% canopy cover of Russian olive and/or salt cedar.	0	0
4.5 Utilization of trees and shrubs:	**Actual**	**Potential**
Few to none of the available second year and older stems are browsed	10	10
Second year and older stems lightly browsed	8	8
Second year and older stems are moderately browsed.	6	6
Second year and older stems are heavily browsed. Many of the shrubs have either a "clubbed" growth form, or they are high-lined or umbrella shaped.	2	2
There is noticeable use (10% or more) of unpalatable and normally unused woody species	0	0

4.6 Percent of physical removal of tree/shrub layer or dead wood caused by concentrated livestock trampling and rubbing, drying out of site due to stream incisement, human-caused wetland drainage or flooding, etc.	<=5%	6-25%	26-50%	51-75%	76-100%
	10	8	5	2	0

Please provide comments for any individual scores less than 6:

If Potential is not at maximum, please explain:

Vegetation Condition Index

Sum all scores and divide by the total possible for the assessment area. 60 for sites with woody species (shrubs and tree); 30 for sites with only herbaceous vegetation).

Only Herbaceous (4.1-4.3): 4 + 5 + 10 = 19 /30

For Herbaceous and woody vegetation (4.1- 4.6):

(_____/10 +_____/10+_____/10 + actual/potential + actual/potential + _____/10) /6 = _____ 0.63

5.0 Water Quality: Is water present? Yes____ No_X_ *Skip this section if water is not present

5.1 Algae and Duckweed Large patches means 50%	Algae growth is minimal **10**	Algae growth in small patches **8**	Algae growth in large patches **4**	High level of algae growth in continuous mats with odor from rotting vegetation **0**
5.2 Is Wetland Dominated by Cattails? *Dominated means 70% Do not include any open water component.	Yes **4**	No **10**		

5.3 Sediment and Turbidity

5.3a Is there evidence of excessive sediment levels caused by human activities? (e.g. bare ground, row crops, erosion, etc. Do not include trapped sediment due to beaver damming)	No evidence / Slight *10*	Moderate *4*	High *0*	**Average Sediment and Turbidity Score:** _____+_____/2= 10 9 8 7 6 5 4 3 2 0 .
5.3b Is the Water Turbid?	No Turbidity/ Slight *10*	Moderate *8*	High 6	

5.4 Surface oils & foams *Do not consider sheen for vegetation decomposition (Should be evidence of human caused source)	No evidence of surface oils or foams **10**	Evidence of surface oils or foams **3**	The wetland is covered with surface oils or foams **0**
5.5 Toxics- (e.g. Metals from mine tailings, hydrocarbon organic materials, or, Pesticides)	No evidence of toxics **10**	Evidence of toxics, however aquatic life is abundant and diverse **5**	Evidence of toxics. Only tolerant aquatic life are found **0**
5.6 Salinity *Conductivity measurements are not necessary	No evidence of saline seeps Conductivity < 3000 uS/cm **10**	Moderate evidence of saline seeps Conductivity 3000-15000 uS/cm **5**	Significant evidence of saline seeps Conductivity >15000 uS/cm **0**
5.7 Are saline seeps, fallow croplands, oil brines, or severe overgrazing present within 3 miles? Yes No Not Sure			

Water Quality Condition Index: Sum the lowest 2 scores (5.1-5.6) and divide by 20:

_____+_____ =_____ /20 = [ ]

Please comment on any individual scores < 6: _____

6.0 Buffer Condition/ Degree of Stress

Stressors in 100 meter buffer	None present Very few present /Minimal *Small Patches*	Common Occurrence *Large patches within Buffer*	Very apparent and extensive Distribution *Extensive Large Patches throughout entire Buffer*
6.1 Amount of bare ground	10	**Slope** Flat 6 Moderate (4) Steep 3	**Slope** Flat 4 Moderate 2 Steep 1
6.2 Noxious weeds (Use Montana Noxious Weed Pamphlet)	(10)	2	0
6.3 Disturbance- caused undesirable plants	10	(4)	0
Degree of Stress in Buffer	None Occurring/Slight	Moderate	Severe
6.4 Grazing intensity in 100 meter buffer	10	**Slope** Flat 7 Moderate 5 Steep 4	**Slope** Flat (4) Moderate 2 Steep 1
6.5 Recreational Activities (e.g. campground, fishing access point, etc.)	(10)	**Slope** Flat 7 Moderate 5 Steep 4	**Slope** Flat 4 Moderate 2 Steep 1

Slope

Flat= <2 percent grade

Moderate= 2-10 percent Grade

Steep= >10 percent grade

Percent of 100m buffer occupied by stressor	0%	1-25%	26-50%	>50%
6.6 Hayfield	10	8	6	4
6.7 Row Crops	10	**Slope** Flat 7 Moderate 5 Steep 4	**Slope** Flat 4 Moderate 2 Steep 1	**Slope** Flat 2 Moderate 0 Steep 0
6.8 Clear cuts, new growth less than 3 feet tall	10	**Slope** Flat 7 Moderate 5 Steep 4	**Slope** Flat 5 Moderate 3 Steep 2	**Slope** Flat 3 Moderate 1 Steep 0
6.9 Feedlot or concentrated livestock watering	10	3	2	0
6.10 Residential Development	10	9	6	0
6.11Human constructed dams or dikes: *often indicates unnatural wetlands*	Not Present 10	Present 7		
	None Present	**1-5%**	**6-25%**	**>25%**
6.12 Human- induced saline seeps were observed	10	7	4	0
6.13 Industrial or Commercial Activities	10	7	4	0
6.14 Oil and Gas Development	10	7	4	0

6.15 Were any of these stressors observed within 100- 500m from the Wetland? (Please circle)

Row Crops	Oil and Gas Development	Recreational Activities (e.g. campground, fishing access point, etc.)
Human- induced saline seeps	Hayfield	Feedlot/concentrated livestock watering
Industrial or commercial Activities	Roads/ Railroad Grades	Clear cuts (new growth less than 3 feet tall)
Residential Development	Dams or Dikes upstream (Riverine Sites)	

Distance of road from wetland	> 100 meters	51-100 meters	11-50 meters	<=10 meters
6.16 2-track dirt road *Up Slope*	10	6	4	2
6.17 Other 2-track dirt road	10	8	6	4
6.18Dirt and gravel roads, railroad grades *Up Slope*	10	4	2	1
6.19All other dirt and gravel roads, railroad grades	10	6	4	2
6.20Paved Roads *Up Slope*	10	2	1	0
6.21Other Paved Roads	10	4	2	1

Buffer Condition Index

Sum the four lowest scores circled and divide by the total possible for the Assessment area (40). 0 + 1 + 4 + 4 = 9 /40 = 0.23

7.0 Restorability

Circle the appropriate category and sub-category and describe how the wetland is trending (when appropriate)

7.1 How easily can the wetland be restored?	***Category A:*** No observed impacts; Wetland does not need to be restored.	***Category B:*** Some slight impacts that can be fixed or restored with minimal expense and effort (e.g. adding fencing).	**Category C** More significant impacts or disturbances within the buffer area that can be removed. (such as a change in land use practices: e.g. crop land changed to pasture, cattle tank or abundant noxious weeds) Restoration would require some expense and effort.	***Category D:*** Serious impacts and stressors are not economically feasible to remove/restore. (e.g., highway or fixed permanent infrastructure)
7.2 Wetland Trend towards natural restoration	***Sub-Category 1:*** Wetland condition is trending upward.	***Sub-Category 2:*** Wetland condition appears to be stable.	***Sub Category 3:*** Wetland condition is trending downward.	***Sub-Category 4:*** Wetland condition trend can not be determined
Comments:				

7.3 Rank Stressors - Choose from the list and rank all starting with 1 (highest)

1	Grazing		Point Source Contamination		Oil/Gas Development
	Mining		Residential Development		Dredging/Filling
	Row Crops		Human Recreation		Feedlot/Cattle Watering
2	Road/Railroad(s)		Industrial Development		De-Watering
	Dam/Dike/Weir		Forestry/Clear cutting		Hay Meadow
	Extensive Noxious Weeds				

Summary of Rating

Hydrogeomorphic Condition Index	.0.2
Vegetation Condition Index	0.63
Water Quality Condition Index	0
Buffer Condition/**Stressor Score**	0.23

Wetland Impact Score Calculation:

If there is surface water multiply the hydrogeomorphic condition index by 0.4; the vegetation condition index by 0.4; the water quality condition index by 0.2.

If there is no surface water multiply the hydrogeomorphic condition index by 0.5; the vegetation condition index by 0.5.

Wetland Impact Score	0.42

Overall Score calculations:

If there is surface water multiply the hydrogeomorphic condition index by 0.3; the vegetation condition index by 0.3; the water condition index by 0.2; and the buffer condition/ Stressor index by 0.2. Sum the indexes to determine the overall condition index score.

If there is no surface water multiply the hydrogeomorphic condition index by 0.4; the vegetation condition index by 0.4; the buffer condition/ Stressor index by 0.2; Sum the indexes to determine the overall condition index score.

Overall Score	* 0.38

* This score is not an indication of wetland impairment status. This form is used to record observations only. The form can be submitted to Department of Environmental Quality for professional review to assist in evaluating wetland condition.

Overall condition index >0.9-1.0: **Excellent Condition**	Overall condition index >0.5-0.7: **Fair condition**
Overall condition index >0.7-0.9: **Good Condition**	Overall condition index 0.0-0.5: **Poor Condition**

APPENDIX D- Photolog

Photograph 1. Fifteenmile Creek facing Northwest

Photograph 2. Fifteenmile Creek facing South

Photograph 3. Mason Creek facing Northwest

Photograph 4. Mason Creek facing South

Photograph 5 – Wetland Area D (center background)

Photograph 6 – Wetland Area D (Sample plot SP-4)

Photograph 7 – Wetland Area E, photo taken facing southwest towards US 20-26

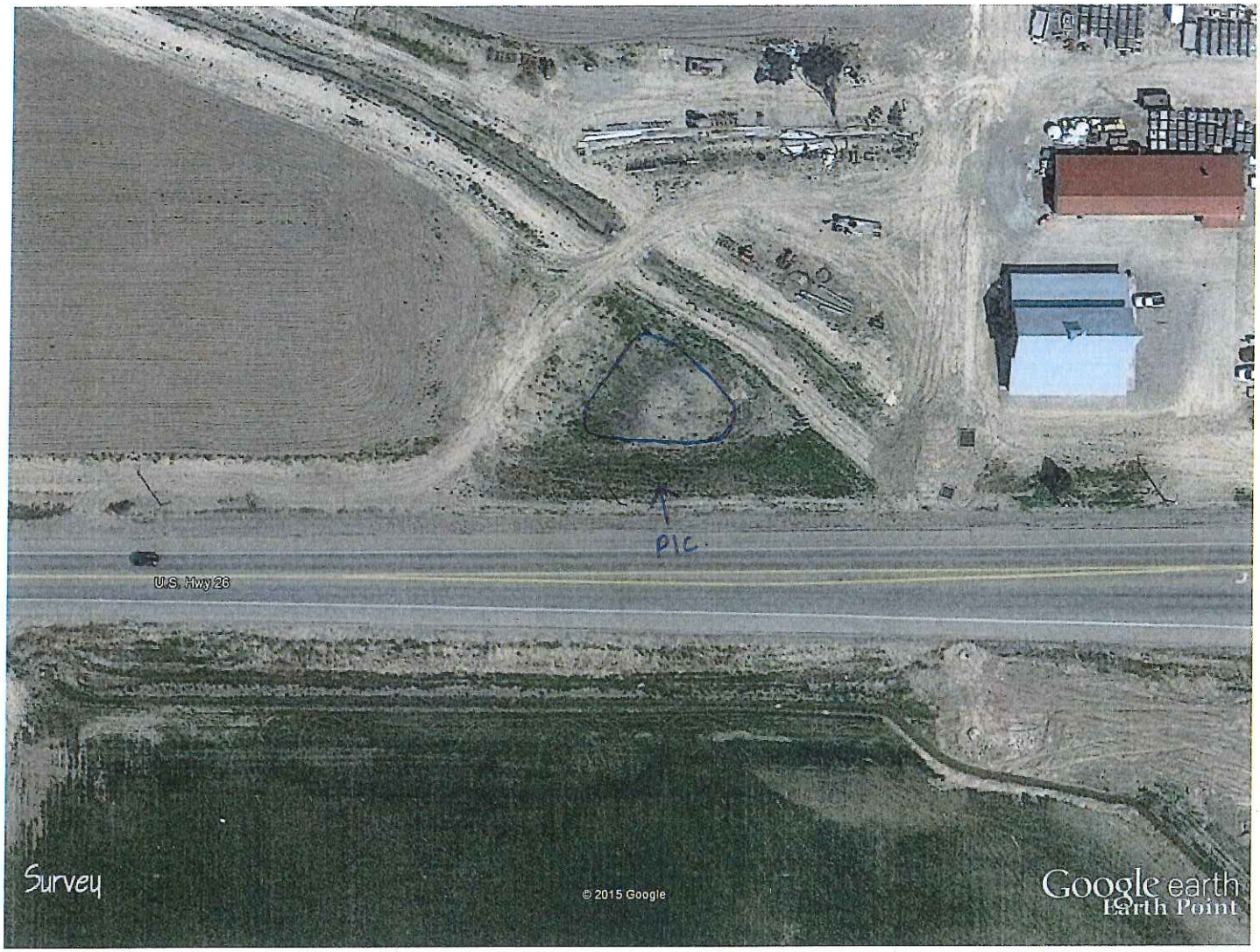
Photograph 8 – Wetland Area E, photo taken facing west

Photograph 9 – Wetland Area F, photo taken facing northeast

Photograph 10 – Pond 1, photo taken facing west (note feeder canal in lower left foreground)

Photograph 11 – Pond 2, located to left (south) of canal dike photo taken facing northwest

Photograph 12 – Pond 3, photo taken facing south



Google earth

feet 300
meters 100

POND 2

April 2015

Google earth

feet 8
meters 2

POND 2

June 2015

Google earth

feet 700
meters 200

WETLAND D

April 2015

Google earth

feet 10
meters 3

WETLAND D

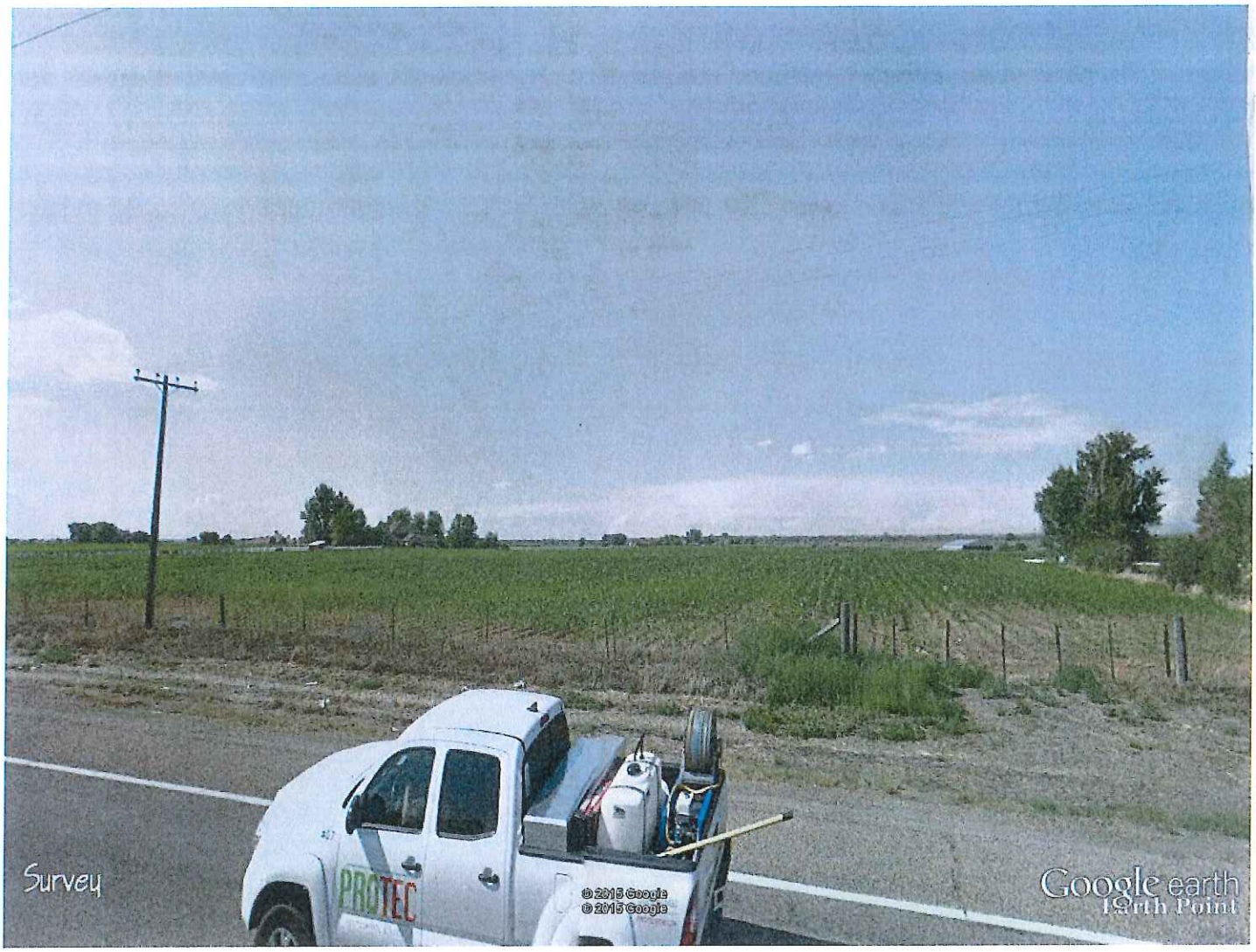
June 2015

Google earth

feet 700
meters 200

WETLAND E

April 2015



Google earth

feet 10
meters 4

WETLAND E

June 2015